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AMERICAN RAILROADS AS INVESTMENTS.

AMERICAN RAILROADS

AS

INVESTMENTS.

A HANDBOOK FOR INVESTORS IN AMERICAN
RAILROAD SECURITIES

alomon rederik
S. F. VAN OSS.

WITH FIVE COLORED MAPS SHOWING THE RAILROAD
SYSTEMS OF THE UNITED STATES

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PREFACE.

The present volume owes its origin to the recognised need of a work in which those financially interested in American Railroads can find information of a useful kind not given by any of the existing Manuals. With all their excellence these publications have two great defects: they are too complicated for the average investor, and yet not sufficiently exhaustive to satisfy experts. The investor wants a clear and comprehensive digest of all important matters pertaining to the affairs of the numerous companies, individually and collectively; the trained financier needs historical, geographical, and technical data to supplement his figures with.

I have endeavoured to meet these somewhat conflicting requirements by writing the present work. Those who know little of American Railroads will, I trust, find a more or less exhaustive sketch of them in the pages which these lines introduce to the public; those to whom they are familiar will, I hope, derive some additional knowledge from a perusal of this volume, and some convenience from its use for reference. Needless to say the work is incomplete; to do full justice to the subject is a task that cannot be discharged well within the limited scope of eight hundred pages, and requires an author equipped with an experience far greater than that which I possess. Nevertheless I have ventured upon the work, taking pains to attain as high a degree of accuracy and completeness as possible, and endeavouring to compress within the space at my command as much useful information about the entire railroad system of the United States, the several groups comprised in it, and the principal individual railways of which it is composed, as it was in my power to collect.

The first three of the nine parts of which this book is composed deal with the subject generally; each of the last six treats of one of the leading groups into which I have somewhat arbitrarily divided upwards of 170,000 miles of railroad. Part I speaks of the rise of that unique conglomeration of lines which represents a nominal investment of upwards of $10,000,000,000, and of its relations to the people and their Government; Part II describes the position American railroads take in trade and travel and discusses competition, rates, technical features, etc.; Part III sees the railroads in the light of financial ventures, of mediums for the useful employment of capital; and although avoiding the discussion of abstract or complicated questions these three parts present a fairly exhaustive review of American railroad conditions, past and present. I have little doubt that a perusal of the first twelve chapters will raise the esteem in which American railroads are held, both in their own country and abroad.

Parts IV to IX inclusive deal with the six leading groups of railroads. Each of them begins with a chapter describing an entire group and speaking of its characteristics as well as of the States it centres in, and further contains chapters devoted to the principal companies, while minor corporations are dealt with collectively. There are thirty-nine chapters treating of forty-five leading railroad companies, each giving an historical retrospect, a geographical description, a sketch of the progress and condition of the company, and elaborate tables covering a series of years and showing the development of the system, its traffic and earnings, as well as its capitalisation, dividends, etc. Five coloured maps are included in the volume; they illustrate the situation of every system and the competition to which it is exposed, and being as far as I know the first of their kind that have ever been published they will no doubt prove very useful. An appendix is added to bring the volume up to date, and an index will facilitate reference.

For all defects the work possesses I alone am responsible; its merits, if it have any, are largely due to the kindness and courtesy shown to me by many gentlemen during extensive travels and protracted sojourn in the United States. To Mr. Robert P. Porter, Superintendent of the Tenth Census, Department of the Interior, and Mr. Edward Moseley, Secretary to the Interstate Commerce Commission, Washington, D.C., I must tender my sincere thanks for the wealth of statistical and other information they had the kindness to provide me with. To the Secretaries of all the leading Chambers of Commerce likewise are due my acknowledgments for a vast supply of valuable data, and for prompt and painstaking answers to numerous inquiries. The Presidents and General Officers of the New York Central, Erie, Reading, Pennsylvania, and scores of other railroad companies have lasting claims upon my gratitude for the assistance they favoured me with, often at the sacrifice of much of their time. Finally I must thank the proprietors of the *Commercial and Financial Chronicle* for the permission they gave me to copy many of the useful compilations for which their journal is noted.

S. F. VAN OSS.

London, November, 1892.

ERRATA.

p. 80, line 10 from above, read *apportionment* for *appointment.*
„ 214, „ 16 „ „ „ *Fitchburgh* „ *Finchburg.*
„ 396, „ 4 „ below, „ *Canada* „ *Michigan.*

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PART I.

THE RAILWAYS AND THE REPUBLIC.

CHAPTER I.

INTRODUCTORY: CHARACTERISTICS OF AMERICAN RAILROADS.

The most dangerous thing an author can do, and especially a new author, is to begin the first chapter of a book with a commonplace statement; and for this reason I will abstain from making any reflections whatsoever either upon the usefulness of railways or upon the great debt of gratitude humanity owes to the inventor of the *Rocket*, that prolific mother of a sturdy race of iron giants whose destiny it was to revolutionize the world within the lifetime of one single generation. We need but look around us to see on all sides countless proofs of the great importance of railways and of their vast influence upon life in all its phases; and their absolute indispensability being clear to every one, an enumeration of their multifarious merits may be deemed unnecessary and panegyrics superfluous in a work which in all probability will be read chiefly by a class of busy people, who may be assumed to prefer conciseness to the most elegant verbosity.

But, if nearly every one in our midst is aware of the influence of railways upon the world at large, the matter becomes an entirely different one as soon as from generalisations we ascend to the higher level of details. We may all know what to think of railways in their collective quality as one of our most prominent social institutions; but most of us are less familiar with them in their capacity as engineering feats, industrial enterprises, or investments.

Further, we may well know in what measure railways in general have furthered the progress of the world; but if we were called upon to state in how far a particular system has contributed to the welfare of a given country, or to describe the influence of an individual line upon a certain district, we should probably find ourselves less conversant with the subject. In like manner we know, unless we have devoted a good deal of special study to railways, very little of hundreds of things pertaining to what Americans call "railroading," nor can this cause any surprise, since "railroading" is one of the most complicated of sciences. Of course, the public has some general knowledge even of the inner working of railways. From newspapers and reviews we unconsciously absorb an appreciable amount of special information relating to the subject, and books like those written by Mr. Jeans and Mr. Acworth have diffused much interesting and "inside" information; and as a result we know a good deal, though by no means everything, about our own railways. But with regard to those of other countries the public is not very well informed, nor could such be reasonably expected since it would be difficult to find an institution of a more complex nature than railways; and especially with American railroads is this the case. They offer such a variety of contrasts with their English sister institutions, and exist under conditions so widely different from those prevailing in this country, that the vast majority of the public, including many of those financially interested in these enterprises, cannot be expected to be thoroughly acquainted with them, and perhaps not even to be aware of the vast differences which distinguish them from our own railways.

With regard to our knowledge of English roads, there is one circumstance which should not be overlooked on account of the important bearing it has both upon our understanding of English railways and upon our estimate of American lines. As Englishmen we are familiar with the influences which assert themselves upon daily life, and with the bearing they have upon our social institutions. We know the effects of public opinion and understand the spirit of the people; we have observed in what direction these two agencies are wont to work upon our surroundings; and we apply the result of this knowledge and of these observations whenever we have to form an estimate of our great social institutions. We instinctively know that because of certain influences and conditions these institutions are what they are; we feel sure that because of certain tendencies of the English people we could, for instance, have no other Parliament, no other Church, no other Press, or Bar, or Bench. And although we do not, perhaps, know these great institutions in all their details we are familiar with their leading characteristics, often less as a result of study than because we know the nation which created them. Englishmen could not possibly have any other Parliament, any other Church, or Bar, or Bench, than they have to-day, simply because they are Englishmen. And as impossible as it was for any of these institutions to assume any other form than the one they have at present, to develop themselves otherwise than they did, just as impossible would it have been for English railways to assume any other shape than the shape they have to-day. We know this instinctively, by intuition; and we do so because we know the creating forces and influences. We feel sure, for instance, that State ownership of railways as it exists in Germany would be as impossible in England as a great standing army or any other institution which is typically German; and the opposite, an almost total absence of interference on the part of the Government, as it exists in the United States, would appear as little desirable to the English nation as, say, a Republican form of Government. Social institutions must of necessity always and everywhere be in sentiment with the tastes and characteristics of the nation that calls them into existence; and railways being one of these institutions the inference is quite clear. With the great differences distinguishing one nation from the other it is evident and inevitable that railways in one country must differ materially from, and present sharp contrasts with, those of other lands.

This leads us to a very important point. In England we quite naturally are apt to expect various institutions abroad to be as they are at home, and sometimes we even go as far as to assume them to be so; and we are not always mindful of the fact that nations with other characteristics must needs have institutions with other distinctive qualities. To prove the correctness of this assertion — if, indeed, it need be proven — by applying it to railways, I will point to the well known and undisputed fact that there are in England some people who expect the same from an American railway as from an English one; there are some, too, who are ignorant of the vast differences between the two; and we meet not a few who forget that an American railroad *must* needs differ from an English railway. It is this common but pardonable mistake which prevents the greater part of the public from forming a proper estimate of a very popular class of investments. There are no more analogies between "Yankee Rails" and "Home Rails" than there are between a Lancastrian and a man from the Far West.[1] Both come from the same stock, but both have their own striking characteristics, contrasting in many ways, because both were born, brought up, and live, under vastly different circumstances; and if we wish to estimate each at his proper worth we must consider the influences which caused their characters to vary. With American Railways it is exactly the same. To form a just and proper estimate of them we must know the conditions under which they originated, developed themselves, and continue to exist. We must know something of the United States, of her resources, of her population and its business methods. And to make the reader acquainted with these matters, to sketch the character of the American railways and the influences which combined to shape it, is the principal aim of the first part of this work.

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[1] "The railroad system of the United States, with all its excellencies and all its defects is thoroughly characteristic of the American people." C. F. Adams, *The Railroad Problem*, p. 116.

One need not pass many hours on American soil to perceive that in the Great Republic railroads occupy quite another position than in Europe. Even before we enter the streets of New York our attention to the vigorous competition between the various companies is attracted by the agents, as a rule possessed of linguistic attainments, who come to the landing stage to solicit our custom, a practice recently adopted by several English companies whose lines terminate in Liverpool, but fortunately not carried to the same extent as on the landing stages of the commercial metropolis of the United States. Our first walk along Broadway will still more deeply impress us with the vigour of this competition, and a stroll along that stately street will also tell us that in America the railroads occupy a much more prominent position than anywhere in Europe, however much that may say. Scores of freight and ticket offices can be found along the lower part of that busy thoroughfare, occupying all prominent corners, their walls and windows ablaze with huge letters and signs in conspicuous colours, and abounding with all kind of abbreviations as typically American as they are puzzling to the uninitiated foreigner. Capel Court has made us familiar with "St. Pauls" and "Canpacs," and we know even the meaning of such names as "Soo" and "Big Four." But how many Europeans know what is meant by "Mop" and "Queen and Crescent Route" and who can say where the "Red," "Blue," "White," or "Empire" lines can be found? These offices in the most frequented thoroughfares are costly advertisements, for all of them are large, fitted up gorgeously, and employ an extensive staff. Yet we must assume they pay, if not directly then indirectly. The sale of tickets and the freight orders may not amount to very much, but these offices push business in truly American style. They are the headquarters of the Eastern agents who distribute beautifully gotten-up pamphlets to attract travellers, and look after the freight business, give tariffs, estimates, and all information free, and take care that their lines do not get out of sight and out of mind, for competition has reached a vigour unknown in Europe, and a large number of lines are always catering for the traffic between all main points. The most curious feature of these numerous and expensive offices, is however, that we not only find agencies of lines leading out of New York, but also of railways in distant parts of the Republic. The Burlington, which does more advertising than any other line (*q. v.*) with, perhaps, the sole exception of the Rock Island, has as large an office as the New York Central, although its lines do not extend East of Chicago; and we find the Georgia Central as well as the Canadian Pacific, and the Denver and Rio Grande, whose line lies two thousand miles West of the Atlantic Coast, as well as the Northern Pacific.

These huge, costly, but effective advertisements are only outward signs of the prominent manner in which the railroads force themselves upon the attention of the public. But the latter has additional reasons for paying a large amount of attention to railroad matters, because there are not many individuals who have no direct interest in some railway or other, and because their prominence is an inevitable outcome of conditions peculiar to the United States. England and other countries attained wealth and commercial importance long before they had railroads, and although the bulk of all traffic passes along the indispensable rails, there still remain some other means of intercommunication. There are excellent highways and canals while numerous lines of steamers come in for a large share of traffic. In the United States it is different. Even in the East there are not many great highways in the European sense, and America has but few canals of other than local importance, nor are they necessary, as both for travel and traffic the railroads take their place. This is the case even over small distances, and whereas European farmers in many instances drive their cars to the nearest market towns, six, eight, or ten miles distant, Americans as a rule have the place of production far away from the centre of consumption, and in nearly every instance find numerous railroads willing to convey their goods at rates so low that no farmer could carry his own goods along the bad roads with a view to saving expenses. Both for travel and traffic Americans depend entirely upon their iron roads, with perhaps, the exception of those living near the lakes or the great rivers of the Mississippi system. Wherever there is population, to use the Indian phrase, "the fiery buffalo runs along the iron snake," and wherever one cannot hear the whistle of the locomotive, there cannot be much of a population. As a rule the railroad came in advance of the settlers, and this too contrasts sharply with European custom. Apart from being impossible on account of the density of our population, the project of building a line through an unsettled country would be deemed an insane proceeding. In America it was the rule, and although it had its drawbacks it has immensely contributed to the speedy development of the whole country, and is destined to bear golden fruits wherever the lines were built judiciously and with discrimination. A Western gentleman whom I met had a neat way of illustrating the *modus operandi* "out West." "We commence building a line and send an engine with a barrel of lager beer ahead as far as it will go. Then we deposit the barrel somewhere in the prairie. A bar and some Germans gather around it, and soon there is a small colony, with a church and a schoolhouse. Meanwhile we push our line ahead for five or six miles and repeat the beer-barrel business; and by the time the whole road is ready we have quite a nice little population along our line." This comparison, it need hardly be said, savours of the "Western man," and the barrel of beer must not be taken *au sérieux;* but the illustration is striking nevertheless.

Americans being dependent upon their railroads much more even than Europeans, we have already one of the reasons for the greater amount of interest paid to them by the general public. Yet the reason is but one of many. Next to this absolute dependence comes the fact that Americans are great travellers. Then the movements of freights are stupendous. In the fourth place, the directors hold the development of the country in their hands. And, last but not least, there always is a large speculation in railroad securities. Possibly the reader will remark that most of what has been said just now applies also to English railways and I would not dispute the assertion, but would point to the fact that life in America is much more intense than in Europe; and since institutions always bear the characteristics of the nation among which they can be found it is but natural that everything which applies to English railways only holds good of American roads if taken in an intensified sense. For instance, Englishmen are great travellers, but Americans much more so. A recent Parliamentary return, it is true, shows that the number of railway passengers in England (817,700,000) is almost sixty per cent larger than in America according to the most recent edition of *Poor's Manual.* But firstly the average distance covered in America by one passenger is four times as large as in England, and secondly we must not overlook the fact that probably one-half of the English traffic consists of suburban travel, while in America, with its complete and wonderfully developed tramway system in all cities, there is but very little suburban railway traffic.[1] By nature the Americans are of migratory habits, and it is a common thing for Easterners to make a business trip to California, while Westerners spend the summer vacation on the Atlantic seaboard, and New Englanders pass the winter in Florida or California. Next, as to goods traffic, official statistics show that this is well proportioned to the extensive network of railroads; it reaches about the same figures *pro rata* as in England, and exceeds it considerably if taken *per capita*. The greatest branch of freight movement in Europe — the haulage of coals to London — sinks into insignificance if compared with the transportation of the American staple products East — corn, cattle, pork, maize, meats, and so on — or with the immense shipments of coals and manufactures West, these staples being hauled over distances which do not even exist in England. Daily fruit-expresses cross the Continent to carry the products of sunny climes to the great towns of the north-eastern States, and in the autumn through freight trains carry corn and wheat over distances of more than a thousand miles, while the coal traffic of Pennsylvania alone exceeds that of the entire United Kingdom.

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[1] Even in New York, with its excellent Elevated Railroad the bulk of travellers between "uptown" and "downtown" prefer the "street-car" to the "L," especially for distances below three or four miles.

Apart from the ordinary importance of American railways for trade and travel they also exercise a vast influence over the development of the country. As we shall see in a coming chapter the presidents of great companies held and in a measure still hold the development of entire States in their hands, and although they are far less powerful now than they were a few years ago, it is still in their power to make or mar cities, and even entire counties and States. A railway or no railway in many instances is but a new version of to be or not to be, and always of paramount importance to the stupendous speculation constantly carried on in railways and "real estate." I will not assert that investment and speculation reach the same vast proportions as in wealthy England. But whereas the British capitalist places his money in all countries, the American investor still must limit himself to home investments chiefly divided into real estate and railroads. Which of the two comes in for the lion's share it would, with the great popularity of speculation in real estate, not be difficult to say. But both branches of speculation require a minute knowledge of railroad matters. Most American business men are speculators;[1] the general aim is to become wealthy, and for this purpose mere legitimate trade does not suffice. But every American knows that ignorance is very expensive, and hence he makes, as a rule, a careful study of the concern he speculates in. One is surprised to see how well-informed the general public is about railroads and real estate matters, although it is but a natural result of constant conversation and diligent distribution of news connected with these subjects. American newspapers teem with all sorts of announcements, and devote special columns to topics of such universal importance; and although, as is well known, a good deal of unreliable information is thus circulated, while those who "pull the strings" often get into the press whatever suits them best, a little experience soon teaches those interested to discriminate between the corn and the chaff.

Apart from these matters, which can be designated as English conditions intensified, there are some other peculiarities exclusively American to which attention must be drawn. There can be little doubt that the stage of development, of youth, through which the greater part of the country has not yet passed, is the most important of these. Englishmen live in a country which has arrived at maturity, where conditions are stable and solid; America still is in its teens, and conditions for the greater part are yet unsettled or at their best in a stage of solidification. There is no country which is subject to greater fluctuations of trade and general prosperity than the Great Republic. The enormous difference between a good crop and a bad one, the feverish inflation of booms and the violent reactions usually following in their wake, cause sudden transformations of the business situation never witnessed in Europe, and render the renta-

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Bryce, *American Commonwealth*, Vol. II., p. 534.

bility of American business liable to changes never witnessed on this side of the Atlantic Ocean. The difference between English trade in the beginning of the eighties, when the bottom of depression was touched, and in 1890, when the general prosperity reached its climax, is insignificant compared with the enormous change sometimes wrought in America within one single year, for instance when a bad crop follows a bounteous one. Of course these severe fluctuations cause great changes in the rentability of investments, and render railroad stock subject to changes of interest which must and do cause the greatest and most erratic fluctuations in their value, except in the case of a few companies conducted in a manner which makes them provide for bad years when times are good, in consequence whereof their stock possesses a very high degree of stability. Fortunately this more conservative policy is rapidly gaining ground; but on the whole it seems that these incessant fluctuations are by on means undesirable to most Americans, who by nature seem to favour sharp fluctuations and contrasts.

Next to the instability of business the method of management attracts our attention, chiefly because it is much more autocratic than in Europe, and must be so although this involves risks and dangers to which European railroad companies are not exposed.

Nearly all lines are governed by a clique or one single person. Occasionally the clique or the individual actually holds the majority of shares; sometimes the majority of their shares is not absolute, but large enough to render opposition impossible, the tendency among ordinary shareholders being unmistakably to support the directors, a step less objectionable than is generally thought in England. In either case, however, the management is endowed with arbitrary and far-reaching powers. This accumulation of power in few hands is partly a consequence of the immense operations in Wall Street and the tactics peculiar to American finance, for, as is well known, a great American speculator rarely hesitates to buy immense amounts of shares or proxies if it suits his objects. Another reason is the peculiar practice followed in issuing shares. In Europe these are at once distributed among the public, while bonds often remain in a few hands. In America the bonds first find their way to the public, and shares usually represent no cash subscription, but, as a rule, are issued as a kind of bonus to subscribers on bonds, and serve as a basis for future profits, as stock which may add voting rights to regular interest. But the concentration of the controlling power has another reason, and for this very reason it seems desirable, nay, indispensable.

War is the natural state of the American road, just as of old it was between the cities of the Continent.[1] Indeed, the comparison between the two can be carried on almost to indefinite points. These old boroughs, prompted by rivalry jealousy, and a desire for independence, fought against neighbouring cities and their petty sovereigns; the American railroad fights against adjacent systems and the State The old municipalities gradually united themselves into provinces with increasing power, and the wars were no longer between towns but between small countries; the small lines became small systems. The provinces became empires, the smaller systems vast corporations, and just as it would be impossible now for Liverpool to go to war with Manchester so it has become already impossible for many a small line to fight against its neighbour and former enemy, simply because both have become parts of one system, like the two great cotton cities are parts of one Empire. Among States the tendency now is towards consolidation, resulting in peace; so is the tendency among American railroads, and the vaster the systems become the fewer quarrels will there be.

But we are by no means so far yet. The lines are still in a feudal state, and war is universal, though no longer to such extent as of yore. And because warfare is still practised it is desirable that one person should rule a railroad; it is desirable, too, because especially in America no good business management is possible without arbitrary power concentrated in one man. It is well that all forces should be commanded by one general if this general is the right man in the right place. This last is of course an essential point. The management of a large business may require great abilities, that of a great railroad demands nothing less than talent, and extraordinary talent coupled with the greatest possible amount of integrity. A railroad president must not only have the talent of choosing able subordinates, he must also possess a knowledge of all branches of his vast business, and of these nobody has a notion unless he has studied the whole complicated mechanism called a railway. The president determines upon new routes; they must be the best, both from a technical and a commercial point of view. He must build "feeders" in the right place to increase his traffic and to keep competition at a distance. He has to "starve" small lines to buy them cheaply, and at the same time look out not to become "starved" himself. He must enter into traffic agreements to secure through freight, and combine with other lines to attain common ends, to promote common interests, and to defend himself against the enemies of his system. He has to deal with the governments of the States his line traverses, to look after Legislatures, appoint trusted agents in the State capitals, and provide them with sinews of war, so that they may fight against hostile Bills, or may "have a talk" with legislators if the line wants a new Bill itself, and then he must not lose sight of Wall Street, mind the bears, and look out that no attack is made upon his control, while at the same time he has to provide all new funds wanted. And then comes the complicated system itself, with lines, rails, rolling stock, passenger traffic and freights, tariffs, land sales, and so on. These things require more than ordinary business capacities; they demand extraordinary talent, and even this must fail if it is not backed by arbitrary power. As a rule this is given, and in America we usually find that blind support of the management without which the latter would lack strength.

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[1] Bryce, *American Commonwealth*. Vol: II, p. 530.

Railroad presidents always become such by their intrinsic merits, either by gradual promotion or by a successful *coup* in Wall Street, the latter being in itself a proof of vast abilities. Among the last-mentioned class there are a few, like Gould and Rockefeller, who occasionally capture, control, and "milk" a line, and then drop it again; but, as a rule, even these millionaires adhere to their properties and aim at their improvement, although at the same time they are not disinclined to use their power now and then for speculative purposes.

The railroad kings undoubtedly rank among the greatest men in the United States. They have money, power, and fame, and for these reasons, especially because they have power, Americans honour them, although the nation is adverse to arbitrary power and hostile to corporations in general; and their tours of inspection are what a Royal visit is at home.

CHAPTER II.

THE ERA OF GROWTH AND GRIEVANCES.

In the preceding chapter I have enumerated a few of the principal characteristics of American Railways. I have shown that for transportation the entire country more than any part of Europe is dependent upon its iron roads, and that this dependence is enhanced by the conspicuously migratory habits of the people. I have stated that the railroads exercise an enormous influence upon the development of the country, and that for this reason and owing to a vast speculation almost every member of the community takes an active interest in railroad mattes, while the speculation itself is rendered extraordinaruy exciting by the great fluctuations to which trade and prosperity are subject. Further, I have briefly called attention to the fact that the management is far more autocratic than that of European railways, given the reasons for this phenomenon, and stated that shares and bonds have been distributed according to principles other than those on this side of the Atlantic. Lastly, I have said that from excessive competition there arises a mutual animosity entirely unknown in any part of the Old World and resulting in war being the natural state of these enterprises.

But this enumeration by no means exhausts the list of distinctive qualities. American railways are subject to American conditions and influences. They are obliged to honour and obey American laws, even if it cannot be alleged that they love them. Their relations to the people at large, and the attitude of the people towards the vast corporations now nominally representing a capital of $ 10,000,000,000 [1] or about one tenth of the nation's wealth, are materially different from corresponding conditions at home. In short, as I have been careful to emphasize before, there are countless contrasts between American and English railways, and as long as these differences are not clearly understood abroad, or at least fully realized, our knowledge of American railways must of necessity be imperfect and consequently our opinion concerning them wrong. It is therefore of vital importance that the reader should be enabled to see these differences and distinctions, and for that reason we shall have to give them our undivided attention before we commence to speak of individual groups or lines. We shall start at the genesis of railroads in the United States, and see under what conditions they were given birth to. We shall point to the consequences of these conditions and to the effects they had. We shall call attention to the defects as well as to the merits of methods and systems, draw the outlines of the crimes committed by the corporations and of the evils they wrought, as well as refer to the vast amount of good they did and the great services they rendered to the country. Above all we shall trace to its origin the public indignation provoked by an abuse of power and a reckless disregard for the wishes of the public, an indignation which culminated in intolerable conditions and resulted in an exceedingly hostile attitude of the majority of the people which at one time threatened to involve a vast interest in grave dangers, a repetition of which, although unlikely to occur, is by no means altogether impossible.

Of the early days of railroading little need be said now. Soon after the completion of the railway from Liverpool to Manchester, opened September 15, 1830, a road was commenced in Georgia, and a few years before the Baltimore and Ohio had been started, this being the first American railway traversed by a locomotive engine.[1] This road is said to have been conceived by George Washington, who intended to connect Baltimore with the Ohio River by means of a tramway, and the project was revived soon after the completion of the Erie Canal which threatened to give New York the monopoly of Western trade.[2] The Erie was projected next, then came the Illinois Central, and soon lines were built everywhere east of the Mississippi. The railways, of course, had to obtain a charter from the various State Legislatures, yet very few obstacles were placed in their way.[3] The enormous "Parliamentary expenditure" of England, which according to a return presented to the House of Commons reached the stupendous sum of nearly four millions sterling between 1872 and 1882, has never been known in the United States. The want of transportation was keenly felt, more keenly than anywhere else; and those who undertook to provide it found not many obstacles. At first the demands of the railways somewhat alarmed the various Congresses; but these demands being recognised as just or necessary they were at once acceded to. And when it was found that money was not put into these new ventures as quickly as could be desired, the legislatures did not hesitate to create inducements. Land grants were made almost everywhere; the Illinois Central got a slice of choice land 12 miles broad running throughout the entire length of the State of Illinois. The Northern Pacific received 47,000,000 acres, the Atlantic and Pacific 42,000,000, the Union

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[1] According to the most recent statistics (1890) the railroads of the United States represent a capital of $ 10,122,500,000. Of this aggregate $ 4,640,000,000 was represented by shares, and $ 5,106,000,000 by bonds, while the floating debt amounted to $ 376,000,000. A large proportion of the total capital is, however, fictitious, as will be seen hereafter.

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[1] Before the opening of the Baltimore and Ohio there was a small railway, three miles long, near Quincy in Massachusetts, and another, also traversing but a very short distance, near Mauch Chunk in the Pennsylvania anthracite coal district.

[2] For fuller particulars see Chap. XVII.

[3] Ib.

Pacific 13,000,000 and so forth;[1] but beyond land grants the Government never gave material assistance, except in the instance of a few Pacific Roads, built immediately after the war for strategical purposes. Rights, powers, and privileges however, were more frequently given, and absolute or conditional immunity from taxation was a popular form of support. To this, however, Government interference was limited during the four first decades of railroading, and the interference always took the shape of aid and never of restriction. The more roads built the better.

Thus the railways became enterprises privileged and protected, favoured and fostered by the Government, and with reason. The advantages accruing from this favourable attitude of the State, however, were not the only ones enjoyed by the new corporations. They also became agencies of transportation under peculiarly favourable circumstances. In England, and in Europe generally, the era of railways was preceded by times of great commercial activity, and with smaller distances there were excellent highways, numerous canals, and many seas or navigable rivers, which gave easy access to every important city. In America there was very little trade before the railroads came, and the economic history of the country hardly began before the day on which the first locomotive engine ran. The distances were almost beyond comprehension; there was no Baltic or Mediterranean cutting deep inland, with large rivers carrying craft from the sea into the heart of the continent. There was one vast stretch of country, the greater part of which was inaccessible. There where no ordinary highways, and few canals leading to the most promising regions; and compared with the want of transportation even the grand Mississippi system was insignificant, the more because it led to what from a commercial point of view is a very bad part of the coast. Thus the American railroad alone took the place which the railways, the rivers, the canals, the coasting trade, and the highways combined occupied in England; it became a monopolist which, except in a few cases, never had any other competition than that of its own fellows. And whereas in Europe, especially in England, railways were from the outset exposed to the competition of water routes, the American road, broadly speaking, had the field all to itself.

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[1] The *Encyclopædia Britannica* (p. 254) states that 200,000,000 acres of land were given at one time and another to railroads West of the Mississippi River. Adams on *Public Debts* (p. 356) says that previous to 1880 215,000,000 acres were granted to railroads and canals. The grants, however, were not such a liberal gift on the part of the Government as is generally supposed, because the latter derived large benefits from them. Land grants usually were made in alternating sections, and thus the Government in a measure was compensated for its liberal gifts, its sections rising in value together with those given to railways. Had grants not been made in alternating sections the railways no doubt would have succeeded in favouring their estates to the detriment of the "public lands of the Government."

Of this monopoly the railways were fully aware, and they were conducted by a class of men too shrewd not to take advantage of the situation. The corporations had been endowed with almost unrestricted powers, because everybody knew that the greater the number of railroads the more rapid the development of the country would be, the faster the wealth of the nation would increase. Everybody realised what the advent of a railroad meant; everybody knew that "a railway or no railway" was simply a new version of "to be or not to be." And from the time this was first recognised the first of the long list of oppressions, injustices and crimes committed by the railways dates back.

The railways knew they were desired. Not only entire counties, but entire States were longing for them, and the hamlets then scattered broadcast all over the country were yearning for transportation facilities which it was anticipated would cause that rapid growth and amazing development of their particular region or town the faith in which is one of the most peculiar traits in the character of every American. This faith, moreover, was stimulated by the marked development of the country adjacent to the earlier routes of transportation, as, for instance, along the Erie Canal; and thus the railways saw their chance, and asked payment for their visit. The grant of space for stations in every place along the line became a matter of course; but the railways were not satisfied with that, and boldly demanded financial support which was usually given in the shape of municipal bonds, saying that without the aid of the townships it would be impossible to build the road, and threatening to pass any village which did not at once accede to their demands.[1] In England this course would have been impossible. Not only have the various companies been required to file a detailed map before they could get their Act, but public opinion soon would have effectually protested against similar proceedings. In America, however, matters were different, and railroads changed their routes as much as they pleased, while their demands upon municipalities were alleged to be necessary owing to want of money. But there was hardly one village in a county which objected to paying for its railroad and which did not anticipate so many benefits from the railways that it was not ready to place upon its future a mortgage which too often proved burdensome afterwards. When, however, an exceptional town or village was unwilling to "pay up" the railway carried out its threat, and the unmanageable township was ruthlessly starved to death while its rivals thrived and prospered; and such a punishment was very effective. The will of the railways was law, and the few grumblers in backway townships, however just their complaints, found no hearing in the legislatures which, although yet independent of the railroads, were too much impressed with their necessity, too much bent upon encouraging them, and too much prejudiced in their favour to pay any heed to isolated complaints.

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[1] W. W. Cook, a New York lawyer, says in his book on *The Corporation Problem* (Putnam, 1889): "The gift of Municipal bonds to railroads has been denounced by the greatest American jurists of the age as unjust, improvident, unnecessary and illegal ... although the U. S. Supreme Court, in its efforts to protect innocent investors, and to preserve the honour of American credit, has sustained the legality of such bonds. After the bonds were issued they were sold... for what they would bring, and always below par (p. 12). The American people begin to realise that municipal aid to RR. is a mistake" (p. 96).

Henry George in *Progress and Poverty*: "A railroad company approaches a small town as a highwayman a victim: "Stand and deliver." The threat of the railway is not merely to withhold what it might give, but to place it in a position worse than if no railroad had been built."

Thus, with land grants, favours from the various legislative bodies, rights and franchises, the railways were built as fast as money could be got.[1] Sometimes a depressed money market would restrict building operations; sometimes buoyant years would result in a building craze, and 20,000 miles of track would be built within a couple of years. After some time railways were no longer constructed merely where required, or where a fair prospect upon returns existed; for, as will be seen hereafter, not only was railroad business expected much of, but there was a large and safe profit in the actual building of a road, and in consequence lines were

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[1] The following figures show the exact mileage completed each year up to the end of 1891:

Years.	Annual Increase of Mileage.	Miles in Operation End of Yr.	Years.	Annual Increase of Mileage.	Miles in Operation End of Yr
1831	72	95	1862	834	32,120
1832	134	229	1863	1,050	33,170
1833	151	380	1864	738	33 908
1834	253	633	1865	1,177	35,085
1835	465	1,098	1866	1,716	36,801
1836	175	1,273	1867	2,449	39,250
1837	224	1.497	1868	2,979	42,229
1838	416	1,913	1869	4 615	46,844
1839	389	2,302	1870	6,070	52,914
1840	516	2,818	1871	7,379	60,293
1841	717	3,535	1872	5,878	66,171
1842	491	4,026	1873	4,097	70,268
1843	159	4,185	1874	2,117	72,385
1844	192	4,377	1875	1,711	74,096
1845	256	4,633	1876	2,712	76,808
1846	297	4 930	1877	2,280	79,088
1847	668	5,598	1878	2,629	81,767
1848	398	5,996	1879	4,746	86,584
1849	1,369	7,365	1880	6,876	93,296
1850	1,656	9,021	1881	9,796	103,143
1851	1,961	10,982	1882	11,568	114,712
1852	1,926	12,908	1883	6,741	121,455
1853	2,452	15,360	1884	3,825	125,379
1854	1,360	16,720	1885	3,608	128,361
1855	1,654	18,374	1886	9,000	136,379
1856	3,642	22,016	1887	12,983	149,257
1857	2,487	24.503	1888	7,066	156,173
1858	2,465	26,968	1889	5 706	161,319
1859	1,821	28,789	1890	5,738	166,817
1860	1,846	30,626	1891 (est)	4,168	170,985
1861	651	31,286			

laid into parts of the country which for decades to come offered not the slightest prospect of supplying remunerative business for the roads, or two lines were built where one would have been more than sufficient for years to come. Thus, from its earliest days railroading has been made a means to fleece, blackmail and oppress; but it was not before the sixties that lack of principle assumed the still more disgusting shape of a demoralisation such as no other branch of business has ever known before, or probably will know hereafter.

As soon as railways were built and put into operation the managers suddenly became conscious of the possession of another formidable power—discrimination. The law did not make any fixed rates which they might charge for their services, and by charging whatever they pleased they had the power to make or mar individuals, towns, counties, nay, entire States, and to levy blackmail accordingly.

There are three kinds of discrimination—against localities, against individuals, and against various classes of freight. To judge of their importance we will explain the nature of each.

Discriminations against localities are probably the most frequent, and they are by no means unknown in England and other European countries. In railroad parlance, this kind of discrimination consists of "charging more for the short than for the long haul." One of the most notable cases was the Winona discrimination, when $ 3.25 was charged for a bale of cotton from Winona, a city on the Illinois Central, situated beween Memphis and New Orleans, to New Orleans, a distance of 275 miles, while one bale from Memphis to New Orleans, a distance of 450 miles (via Winona) was carried for $ 1.00. Similar discriminations were in vogue all over the country. For example, the rate between New Orleans and New York for a certain class of freight was 76 cents, while from Atlanta to New York, but two-thirds of the distance, $ 1.00 was charged. The rate for sugar from New York to Ogden, Utah, 2,466 miles, was $ 2.14 per

100 lb.; to San Francisco, 3,299 miles, it was but $ 1.25 and so instances might be multiplied indefinitely. It is evident that upon some localities these differences had the most disastrous results. To take the Winona cotton case. It is plain that the planter who could ship his cotton in Memphis could realise $ 2.25, per bale more than the one in Winona, the market value of the fibre in New Orleans being of course the same; and this difference is so great that, if it does not render profits absolutely impossible, it may at least determine between prosperity and proverty, and must cause a serious depression in the value of lands in Winona.[1] Indeed, some writers have gone so far as to assert that the depopulation of rural districts, perceptible in many parts of the States, is a result of the discrimination against local points, for of course it could not be practised against large localities, which, as a rule, have competing railroads.[1] Yet this is an extreme view of theorists like Mr. Hudson and Professor R. T. Ely, or of men like Mr. Stickney, of the "Maple Leaf," who in his recent work on "*The Railway Problem*" defends views one would not expect from the Chairman of a railroad company. No doubt discrimination between localities gave rise to curious anomalies, and reason for some just complaints. For instance, in one case it was cheaper to ship some goods from Pittsburgh first to New York and thence to Chicago than to ship them there direct, so that the railway got less for carrying goods 1,400 miles than 600, and took them up and down from Pittsburgh to New York along the same line for less than nothing. But as regards discriminations between localities in general, though vehe-

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[1] Hudson, *The Railways and the Republic*, (p. 168).

I had a conversation about this famous Winona case with Mr. Markham, the traffic manager of the Illinois Central, who showed me by his tariffs that Winona paid no higher rates than any other *local* point, and argued that, since empty cars for the South pass Memphis every day, lower rates could be made there. Every cent realised from freight in excess of the difference between the cost of transportation of an empty and a loaded train was clear profit. In Winona, however, no sufficient freight is given to warrant lower rates.

[1] Stickney, *The RR. Problem*, pp. 29 and 30.

mently denounced by numerous writers, I think that they are not as black as they are painted, and that not much blame attaches to the railways.[1] From the few instances which I have mentioned we see at once the reason of these discriminations. Rates are lowest at competitive points, and instead of saying charging more for the short haul than for the long, it should be charging less for the long haul than for the short one. At competitive points the railway has rivals: in the three instances mentioned before, the railways have to compete with Mississippi steamers, the line of steamships from New Orleans to New York, and the water rates round Cape Horn, and they have either to accept the lower rate or lose the business. Where there is no water competition there is, in the case of discriminations, rail competition, and competition always tends to depress prices. Moreover, there are other reasons why competitive points should have the advantage. Numerous cars pass them, to use a familiar bull, "loaded back empty," and if a railway can fill them with freight at reduced rates this may still pay better than no freight at all. For instance, if the Illinois Central refused to ship cotton from Memphis to New Orleans at a dollar a bale the freight would simply go by steamer.[2] Further, it should be borne in mind that it is comparatively cheaper to carry a bale or a box two hundred miles than fifty, because "terminal work" (loading etc.) forms a very important item of the cost of transportation, and has to be charged twice for a small distance as well as for a long one Let us assume loading and unloading to cost the railway 25 c. a car, while moving it costs one cent per mile. Then the cost of transportation for fifty miles would be 2 multiplied by 25 c. plus 50 multiplied by 1 c. or one dollar. To carry it two hundred miles would, however, not cost four times as much, or $ 4.00. but only 2 multiplied by 25 plus 200 multiplied by 1, or $ 2.50. Furthermore, there is a larger business at competitive points, and there are more full car loads than in small places, which compensates for lower freight rates. From all this it is evident that the long *v.* short haul agitation, of which so much fuss is made, has not much ground to stand on. Yet discriminations were forbidden long ago in four or five States, and now are unlawful under the Interstate Commerce Act, with what results we shall see later on. No doubt it had its evils and anomalies. The grain rate from Chicago once was 15 c. to New York, against 25 c. to Pittsburgh. Why should a Pittsburgh labourer pay more for his bread than one in New York, in spite of his being twice as near to the centre of production? The low grain rates from the West ruin farmers in the East, and transferred, Mr. Hudson says, $ 350,000,000 in land values from the East to the West. No doubt this is to the detriment of Eastern farmers. But a few isolated facts like these detract nothing from the force of the arguments railways advance in favour of the necessity of local discriminations.

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[1] General Alexander, a Southern railroad man, whose *Railroad Practice* (Putnam) is a defence against the attacks of mere theorists, says (p. 23). "Three mistaken ideas upon this subject are very prevalent and have led to the popularity of the "long *versus* short haul" legislation: First — That the railroads are losing money on the long hauls and make it up on the short, whereas, whatever is received for the long above "*additional cost*" (see foregoing note) is extra.... Second. — That only the city which receives the rate gets the benefit, whereas it is really but a benefit in trust on its way to local producers and consumers Third. — Every village believes that competitive rates would make a city of it, which question is one beyond discussion." These arguments carry conviction with them, and also in England are worthy of regard. I refer those more especially interested in this controversy to a pamphlet entitled: *Statement on behalf of the Ill. Central RR. Company, in Support of its Action in holding Higher Rates for the Shorter than for the Longer Haul*, which is issued by the Illinois Central RR. Company in Chicago.

[2] See note on foregoing page.

It is otherwise with the second class of discriminations, consisting in making differences between individuals, by far the most damnable, unjust, and repulsive practice of railways, which, moreover, could be most effectually concealed by rebates, drawbacks, underbilling, and other ingenious devices.[1]

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[1] I have been told that at present personal discriminations are concealed by the aid of poker. An Agent will agree with a shipper that he shall have a monthly rebate of say $ 500. Then they play poker for a few minutes the agent bets $ 500 on a very bad hand, and the shipper "sees" him The agents used to receive costly presents from the shipper, but with the increase of competition the reverse takes place now.

One man got a cheaper rate than his rivals, and by this favour he could amass a fortune while others were ruined. The most notable instance of this kind of discrimination is that of the Standard Oil Company, which owes its rise, as Rockefeller owes part of his fabulous wealth, to discriminations.[1] To give the full history of this "commercial crime" would require too much space, but, briefly stated, it amounted to this: Rockefeller founded his business in Cleveland instead of in Pittsburgh, to be able to avail himself of the lowest rates to New York, those on the water route along Lake Erie, the Erie Canal and the Hudson River. Then he went to the railways and asked rates more favourable than the lake and canal route could give, and he obtained them. Thus, having stolen a march upon his competitors, his business grew rapidly, and as it increased he went again to the railways, induced them to underbid each other to secure his large freights, and got still lower rates. Finally the company demanded not only a very much lower rate than anybody else in the petroleum trade, but had the audacity to ask for a rebate on the petroleum shipped by others, so as to make sure that its rivals had to pay much higher rates than itself. This claim of the greatest shipper, however repulsively unjust, was not refused, and once the Standard Company received rebates to the amount of $ 10,000,000[2] within 18 months, this immense sum being of course paid by its rivals in business, who had to sell out one after the other or go bankrupt. Enormous wealth and an oppressive monopoly were the results of this criminal practice, as disastrous to the railways who had made the wealth and the monopoly, but afterwards found that the latter restricted the output, as hurtful to the American petroleum industry and to the public. These facts were elicited under cross-examination, and are therefore beyond dispute. They constituted, however, by no means an isolated case. Similar gross injustices were of every-day occurrence. Men in business were anxious to get on good terms with railroad people to obtain special rates, and some of them acquired great wealth while their rivals became bankrupt. To show what even a small differential rate will do I will quote an example from Mr. Stickney's "*Railroad Problem.*" He supposes a wheat merchant somewhere west of the Missouri to get a rate to Chicago ¼ cent. per bushel less than his rivals in business. He has $ 50,000 at his command, sufficient for an annual turnover of 2,000,000 bushels. Backed by his low rate, he can commence paying for his wheat as much as his rivals could pay if they renounced their profit, and then still make the apparently insignificant gain of ¼ cent. per bushel. On 1,500,000 bushels, however, this amounts to $ 37,500, or 75 per cent of his capital. Naturally his rivals must go bankrupt or retire from the business. He gets the monopoly because he can pay the highest price for wheat; and by virtue of his unfair advantage, small though it may seem, he can realise a large fortune in a few years. Similar discriminations were general. The Hepburn committee, which a few years ago held an investigation in New York State, collected evidence of more than 5,000 discriminations in favour of individuals, made by the N. Y. Central and Erie Railroads, and in proportion they could be found in all States of the Union. Their demoralising influence, gross injustice, and criminal character is too evident to need emphasising.

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[1] The full history of the rise of this wealthy company is given in Mr. Hudson's *The Railways and the Republic* (pp. 67—116) of which it is one of the most interesting chapters.

[2] Prof. R. T. Ely in *Harper's Magazine*, August 1886: "If it (the Standard Oil Company) had transacted business at such terms as would have involved to others a loss of $ 5,000,000 there would still have been an equal sum for distribution as profits."

Next to these came discriminations against merchandise. The Standard Oil affair, apart from being a discrimination in favour of persons, and indirectly against localities, natu-

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[1] Among the numerous evil results attributed to this damnable practice is the gradual development of vast enterprises and the centralisation of trade in the hands of comparatively few people, who crush and crowd out small business, as well as the creation of immense fortunes which are regarded with no little apprehension. Cook, *Corporation Problem.*

rally was to the detriment of the petroleum trade because the monopoly restricted the consumption, and is responsible for this trade being diverted to Cleveland, although Pittsburgh could have become its natural centre. The latter city being for many years entirely dependent upon the Pennsylvania railroad in its intercourse with the East has probable suffered more from railway tyranny than any other city in the Union. It is generally known how favourably the city of natural gas is situated: so favourably, indeed, that in spite of adverse rates it has become the American Birmingham. Yet its iron and glass industries went through many a crisis which can be traced directly to railroad discriminations against its businesses; the riots of 1877, for instance, caused by a lock-out, could have been averted if rates had been more favourable; it has been proven that in that case Pittsburgh industries could have worked for exportation and that there was a sufficient profit on railway transportation to admit of a very substantial reduction of the tariffs. There are many other instances of discrimination being detrimental to industries; for example, the discrimination against dead meat. The four largest packing houses of Chicago, notably Armour, chiefly owe their greatness to their skill in "working" railroad managers, and by rebates and secret rates these houses got their wealth in exactly the same manner and by the same practices as the Standard Oil Company. At present, however, the tables are turned, and they are discriminated against, the rate for live stock to the East being proportionately much lower than the tariff for dead meat The reason for this is generally understood to be that various railroad presidents own great cattle ranches, and, therefore, have an interest in keeping dead meat rates in the East high, and live stock rates to the East low in order to realise better prices for their cattle. There are still more prominent cases. In the days of the anthracite coal pool there were two rates for coal to Philadelphia. Coal for consumption in that city cost 30 cents more than coal loaded into vessels at the same port, and I could go on enumerating and specifying cases to the extent of many pages. Those of which details are given above are but a few prominent cases; minor discriminations against various classes of merchandise are so universal that it would be impossible to enumerate them. It was, and still is to a very great extent a rule, to charge different rates for two classes of freight requiring the same care in transportation; for instance, pig iron would be charged more for than cereals although it is less bulky and requires less care and no covered cars. But against the application of the principle of charging what the freight will bear less objection can be made than against the other kinds of discrimination; it is evident that a ton of silk can bear a much higher rate than a ton of, say, bituminous coals. And it must be said that, whatever agitation there may have been, few people objected to rates in themselves, which on the average are lower in the United States than anywhere else. What people protested against was that the companies distinguished between individuals and between localities, the latter without any apparent justification, the former in a corrupt and criminal manner.

Speaking of discriminations I must not omit to mention that this practice was also resorted to as a means of killing the competition of water routes. A glance at a good map of the United States will show that it would be possible, for instance, to ship cereals from Omaha to Cincinnati or Pittsburgh along the Missouri, Mississippi, and Ohio rivers, and from these points they could be sent to the seaboard by rail. Nowadays the all-rail rate is so low that it would no longer pay to send grain East by this route; but before rates had reached their present level the rivers would have been employed to a very great extent. Yet all attempts to do this failed, the railroads making such phenomenally high rates for grain from Ohio River points to the seaboard that it was much cheaper to ship the produce by rail all the way from Omaha. The Pennsylvania RR. discriminated against all Ohio points as far as the shipment of grain was concerned, in order to get the long haul from Chicago, and Mississipi, Lake, and especially Erie Canal navigation were thus conspired against, as a rule with the utmost success. In America one does not find nearly as much traffic on the Missisippi as, say, on the Rhine or the Danube, and although at present there seems to be no other cause than the low rail rates, water competition was nipped in the bud by discrimination. It is for example well known that the New York Central never ceased to war against the Erie Canal by means of discrimination, although a more effectual weapon is employed now, namely low rates. There can hardly be any doubt that in the long run the Canal will be killed. For many years it has been a financial failure, and it would no longer be available as a water route if it were not supported by the State of New York.

In addition to these discriminations connected with the goods traffic there was and still is one of another kind, the free pass abuse, which ranks among the favours bestowed on individuals. The free pass was, and yet is, to some extent, a means of buying people. It was often given to secure freight; oftener to buy influence. Judges, sheriffs, and policemen, senators, congressmen, editors and reporters got them, until, eight or ten years ago, half the number of passengers were carried free. It is evident that whereas numerous passengers did not pay, others practically paid double fares, for the railroads had to make a profit on running trains. Now, no doubt a railroad president should have the power to grant a free pass to people especially entitled to it. But if somebody who wants to go with his family on a holiday to California can get one, because he happens to know the "G. P. and T. A." or some other official, it is clearly a fraud upon shareholders.[1]

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[1] I recollect having been once in the New York Office of a Railroad Company when a gentleman came and asked for a free pass for himself, his wife and four children, from New York to a watering place about 300 miles distant. The pass was given to him, and after his departure I learned that he was a Wall Street

The result of all these discriminations in their various forms is evident. Of course they made many friends among the public. The press, the bench, and the legislators were bought cheaply, and backed by the leaders of public opinion, by the administrators of the law, and by the Congresses the railway magnates were omnipotent. During their annual trips their railway was a very *via triumphalis.* Legislatures bowed before them and individuals kneeled, because they were the most powerful class of people. They could shape politics, could make States and counties poor or prosperous at will, could make an individual wealthy or bankrupt if they chose, could bestow valuable favours or withhold them. And this being generally recognised, the subserviency of their favourites practically enhanced their power. But vast as was the number of their friends and supporters, their actions gradually made bitter enemies. The village which was discriminated against complained. The individual ruined by favours extended to others revolted. The man who had to pay a high fare while his neighbour in the "car" showed a free pass to conductors, grumbled; the tyrannised cities, the crippled industries made numerous irreconcilable enemies, who after some time gathered themselves into a formidable force bent upon attacking the common foe. When it came the conflict was fearful, and for a moment it seemed as though the enemy would be crushed, as if the fortress, representing a capital of two thousand millions sterling, commanded by the best brains of the nation, protected by press and legislatures, but at the same time a stronghold of tyranny, injustice and corruption, would perish. But it was too

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Reporter of a reputable evening newspaper. The free pass nuisance has abated to a very great extent. Ten or twelve years ago most business men carried their "annual" and if they required a free ride it was but necessary for them to go to a railway and threaten to ship no more goods over it to get one. At present the practice is less common, and some States have gone so far as to forbid their legislators to accept them. But the practice is still too much in vogue. In the West at least one fifth of all passengers travel on free passes. In the East a pass is rarely seen. Another regrettable usance is that Railroad advertisements as a rule are paid for with tickets, which are frequently sold.

strong, and when the smoke of battle passed away it could be seen still standing, damaged, it is true, but standing. Whether the unsuccessful besiegers will ever be compelled to renew the attack remains to be seen, but I think they will not. They have learnt that war waged against the railroads means self-destruction at its best; and on the other hand the railways have been taught that it is dangerous to rouse the wrath of the public. This experience must needs be wholesome in its effects upon both sides.

How the public commenced to fight the powerful corporation, how it succeeded, and what means were employed, whether these means were effective, just or unjust, will be seen in a future chapter. But before speaking of this matter we must deal with some other practices as condemnable as discriminating rates or free passes. After that we shall have a brid's-eye view of conditions which caused the Inter-State Commerce Act to be passed.

Although this does neither mitigate the guilt of railways, nor detract a particle from the nefarious nature of a pernicious practice, it cannot be seriously argued that the various kinds of discrimination resorted to by railways — except, perhaps, discriminations against water routes — originated in a desire to tyrannise or injure the public; they merely sprang from the erroneous belief that they would increase the earnings of those companies which brought them into practice. No matter whether managers belonged to the honest or to the unscrupulous class their own interest compelled them to strive after an increase of the earnings of their company. If a "boss" had commendable motives he resorted to discriminations because he considered them a direct means of securing patronage for his railway, whereby earnings, dividends, and credit of his company would be improved. If he possessed no full measure of integrity improved earnings were equally desirable because larger receipts would afford further opportunities for delusion and widen the field for successful manipulations. Hence every departure which might be reasonably expected to increase earnings and to improve business was eagerly resorted to, and among the various ways open to managers there was none which at first sight appeared as desirable as discriminations. In due course it was seen that this appearance, like so many other appearances, was deceptive; but before the truth was recognised the practice was universally indulged in. Why it took so comparatively long before the true effects of discriminations were recognised is, with the average shrewdness Americans are rightly credited with, somewhat mysterious; but it seems as if everybody, although aware of the fact that all his competitors availed themselves of differential tariffs, thought he could beat all others as far as discriminating propensities were concerned, and thus steal a march upon his rivals and attain an ultimate advantage. Like gamblers in a Montana mining camp everybody knew he had to be on his guard against others, yet confidently expected not only to hold his own, but to be "one too many" for all players, no matter how many cards each might have up his sleeve.

Discrimination commenced to assume perceptible proportions about 1870, when there were over 50,000 miles of railways, and from then it grew in extent until the middle of the eighties, when it became alarmingly prevalent. By that time nearly 130,000 miles of track had been laid. No trifling proportion of this mileage was superfluous and built less because it was wanted than because to numerous unprincipled persons the building of a railway afforded opportunities of amassing wealth at the expense of those who provided the money. As the various methods of duping the investor by means of construction companies and so forth will be discussed later (Chap. VIII.) it is not necessary to dwell upon them now; suffice it to say that for various reasons far more railways were constructed than were needed, and that in consequence the supply of transportation exceeded the demand to a very considerable extent. With regard to this overdose of competition, its causes and effects, it will be necessary to again refer the reader to a coming chapter (Chap. V.) in which details are given a summary of which would merely obscure our present subject, so that for the present we will only point to the undisputed fact that it became necessary to either allay or to combat competition. The latter mode was first resorted to. Every railway strived to beat its rivals, sometimes by means of open rate wars, but oftener by secret scheming, by discrimination. "If I favour particular centres or particular persons for whose business I have to compete with others," every 'railroad boss' argued, "I can no doubt secure a very large business and defeat or oust the rival. Meanwhile I will, of course, only discriminate where it is necessary, namely at competitive points. At other points I will make the most of my monopoly, and thus I shall get much business at low rates, and some at good rates."

Now, no doubt, this was nicely argued; but time proved the reasoning to be defective because every railway manager reasoned alike. The outcome was that all railways were secretly discriminating at competitive points, and thereby reducing rates without any one of them receiving compensation in the shape of a greater volume of business; and as, in the meantime, there existed a mutual desire to drive competing companies into insolvency in order to get rid of rivals, the entire business became unprofitable in spite of the inequality between local and competitive rates, so that gradually the idea dawned upon railway managers that wars and discriminations were not likely to lead to the millennium.

From the point of view of railways the failure of discriminations as a means to improve earnings was the more regrettable because owing to countless malpractices, mistakes and swindles the entire system had become overburdened with "water," in consequence whereof it was necessary for the companies to earn considerably more than would have been required with a more moderate capitalisation. For this reason a certain amount of harmony became more and more desirable. At first several railways at competitive points came to a kind of understanding according to which they were to divide traffic and uphold rates, thus mutually abandoning secret favours which after all proved to miss their aim; and after a time such agreements became very general, until they developed into pools.

The pool, it is said in the United States — in spite of the fact that they were known in England long before they were brought into practice in America — is the invention of Mr. Albert Fink, formerly an official of the Louisville and Nashville, and later the administrative head of various great pools, who defines it as "a combination of railroads engaged in competitive traffic for the purpose of maintaining rates by suspending competition." To enter into details regarding all aspects of the pooling policy must be deferred until later, because again it seems judicious to mortgage the space of future chapters in order to avoid the confusion which must arise from entering into side issues. We will therefore merely state here that pools proved failures in most respects, possibly in all; but with our present subject, "grievances," this has little to do, and it is of far greater importance now to lay stress on the fact that their aim was to improve earnings by suspending competition. It need scarcely be said how the community looked upon an attempt to achieve this purpose. Competition is the soul of trade all the world over, but competition in transportation is the foundation, the first and foremost necessity of commercial and industrial life, and it is this much more in the United States than anywhere else. Competition means low rates, and without low rates trade and agriculture in the West cannot exist. Hence pools encountered an embittered resistance from the start. They were considered outward signs of a tyranny which every American thinks it is his duty to resist; they were deemed dangerous to the entire community; they were denounced as germs of a grave commercial disease which should be exterminated at all hazards. Hence it did not take the legislatures very long to make front against pools, the more because they rendered the cost of transportation subject to severe fluctuations which in their effect upon trade were more injurious even than a monopoly or tyranny. In addition there was another reason why everybody took exception to them. Pools were admittedly created with a view to improve earnings. They should cause a fair return upon capital. But this capital was inflated to an enormous extent; some authorities say that fully fifty per cent of it is "water," and the public, knowing such to be the case, reasoned that it was preposterous to raise rates to such an extent that full returns could be paid upon a capital which was largely fictitious; one half of railway capital being "water," the public by a very simple method of calculation arrived at the conclusion that such "fair return" necessitated rates twice as high as would be required by a return upon bona fide capital. The arithmetical method of course is wrong; instead of 100 per cent. an increase of probably not more than 30 per cent. would have been sufficient to double dividends; but an excited population can hardly be expected to reason with arithmetical precision, and pools being no doubt noxious it can excite no wonder that Americans, provoked and exasperated as they were, fought with arguments and uttered accusations commensurate to their utter dislike of pooling, and of oppression and tyranny in general. And although most of us would probably express our disapproval in less passionate terms, all, I think, will *au fond* agree with those who proclaim that pooling is condemnable because it imposes tyranny upon the people, because it deprives trade of the benefits of competition, because it hurts business by unstable rates and because it is a scheme devised with the object of earning dividends upon fictitious capital. These views were held and emphatically pronounced by every American, and this being so it can exercise no wonder that the legislatures of many States forbade pooling, and that ultimately it became interdicted by the Interstate Commerce Act. No doubt the views taken by the nation at large were a little exaggerated; but even if we make ample allowance for the excitement usually provided by abuses there remain sufficient reasons to rejoice over legislative interference. There can be no doubt that pooling was a pernicious practice and conflicting with the interests of the nation; and an additional reason to rejoice over their abolition lies in the fact that, as we shall see later on, they were also injurious to the railways themselves.

CHAPTER III.

THE RAILROADS AND THE LAW.

I hope I have given a faithful sketch of the situation as it was before the Interstate Commerce Act came into existence. The railways were created as *protégés* of the State. They commenced at once to misuse their power by demanding financial support from counties and townships, threatening to punish and actually inflicting penalties in every case in which their demands were not acceded to; then they proceeded to discriminate against localities, inflicting damage upon and causing serious losses to "local points." Next they started a system of discrimination between persons which was as criminal in principle as it was demoralising in its effect upon business methods in general; further, they discriminated between one industry and the other, and between the same industry in different places. They inaugurated a free pass system as hurtful to themselves as it was unjust to the public, and leading to corruption of press, bench, and legislatures; by pooling they tyrannised over the public and deprived it of the benefits of competition; the investing public was imposed upon by bogus purchases, construction companies, and other frauds. Moreover, their financial methods introduced a fictitious element into railway capitalisation, which reached such magnitude that it compelled the companies to tax the public to an extent which, but for the large amount of water, would have been unnecessary, and which became unbearable.

It was natural that in a country devoted to freedom and justice these various wrongdoings should gradually lead to the development of a strong hostile force. For a long time the railways remained so powerful that they could consider it unnecessary to pay any heed to their enemies. Their favours made friends among the public; their recognised power rendered opposition dangerous; their free pass bribed press and pulpit, bar and bench; their influence and money bought Legislatures, into which they were the first to introduce a pernicious system of jobbery. With so many odds against them the enemies of the railroads, indeed, had small chance of success. Yet their number grew constantly and at the same ratio as did the indignation caused by blackmailing, discriminations, free passes, pooling, stock watering, corruption of courts of justice and congresses, and so forth. And it can cause little wonder that the numerous enemies, embittered by the hopelessness characterising their case for so many years, were as unjust in their claims for remedies as the railways had been unjust in their actions. To find the happy medium between the demands of the public and the alleged rights of the road constitutes, indeed, that which has gradually become known as "the railroad problem."

Opposition was bound to spring into existence first and to become strongest where the largest class of people suffered most, and hence it originated in the agricultural States of the Northwest, where practically there was but one class of people—farmers. These were well organised, and formed the "Granges" or Patrons of Husbandry, now merged into the Farmers' Alliance; and the agricultural interest being the first to require low and uniform rates, and strongly represented in the Legislatures of the Northwestern States, opposition in that particular region was bound to be most formidable. The first Granger Law was passed by the Minnesota State Legislature in 1871. It consisted of a brief Act fixing maximum passenger and freight rates, and prohibiting discriminations of any kind; and this law, based on the principle that the State has the power to fix rates, subsequently proved to be of the greatest importance both to the public and to the railroad interest. But at first the railway companies paid not the slightest attention to it, and continued to do as they pleased, not what the Granges ordained by law. In 1873—4, however, the "Duluth discriminations" came, of which I intend to say more when writing about that young and prosperous city. By means of rates every town in the Northwest was brought "as near to Chicago as to Duluth," although the difference in distance sometimes amounted to 250 or 300 miles. As the summer business was carried on at a loss, winter rates, of course, were made exceptionally heavy, Lake navigation being closed during the cold season; and the Granger indignation, increased by disobedience to their laws, was augmented tenfold by these Duluth discriminations, with the result that Wisconsin, too, passed a Granger Law, and both States demanded adhesion to its prescriptions, threatening to carry the case before the Supreme Court if the railways refused to obey. To this the railways replied that they would deliberately disregard the law because, as President Mitchell of the Chicago, Milwaukee and St. Paul RR. demonstrated in a lengthy letter, dated 28th April, 1874, and addressed to the Governor of Wisconsin, the Granger rates would render profits impossible, so that the new law amounted to a confiscation of property. But the Granges were resolved to carry their point, and thus the cases were brought before the United States Supreme Court, which gave its decision in 1876. This decision was of the greatest possible importance. The question to be decided was whether States had constitutional powers to regulate any class of business which had become affected with a public use. The first Granger case, which was brought to decide whether the State had the right to fix elevator charges[1] led the United States Supreme

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[1] Munn v. Illinois 4 Otto 113.

Court to lay down the principle that the State had such right, and in the other cases, brought against the Chicago, Burlington and Quincy Railroad and against the Chicago and Northwestern RR., and therefore directly dealing with railways, the same principle was upheld. Later on the same Court, in the "Wabash Case," decided, however, that no State could regulate Interstate rates.

The railways were thus defeated, but their cause was by no means a lost one. They thought the maximum rates fixed by the Granges were too low, and they therefore resolved to bring the unreasonable Granges to book. The companies greatly reduced their service in efficiency and frequency, saying that the Supreme Court certainly could not compel them to carry on business at a loss, and the inconvenience and damage inflicted by this policy were so great that the Granges, seeing no other way out, were brought to a compromise, and promised to modify their law. In the meantime the railroads had begun scheming, with the result that by the time the question was again brought before the State Congresses these bodies consisted of members, the majority of whom were bribed by the railways, so that the new laws were "made to order." But because they were all right for the railways, they were all wrong for the people. The corporations had carried their point by means of their political operations, and backed by the rude force of their millions they were bound to succeed in a country where a few thousand dollars, and often much less, bought a legislator. Against such corruption no Granges could hold their own, and the outcome was that the railroads, after the Granger cases, became more powerful than they ever were before, while their power apparently rested on a stronger foundation and the Grangers were more impotent than they ever had been. Railways were all-powerful in the Legislatures of most States; they could control politics if they liked, but rarely went further than their interests demanded. Here they backed the Republicans, there the

Democrats, as a rule giving their support to the party which made the highest bid for it. In some instances even both parties were supported simultaneously. Thus Jay Gould, according to Mr. C. F. Adams—and, perhaps, according to others too—"a man without a conception of morality," with regard to the Erie stated before the Hepburn Committee that the company was democratic with Democrats, and republican with Republicans. The power of corporations in Legislatures was almost absolute, and proved most valuable to its possessors. Money invested in a legislature was invested well. The Pennsylvania R.R., for instance, kept the B. and O. out of its home State for many years, and still is the only route traversing Pennsylvania, the leading State of the Union; in "*Leading Cases Simplified*," Mr. John. D. Lawson says: "The Penna. RR. runs the Harrisburg Congress with the same success as it does its trains." The Baltimore and Ohio ruled Maryland, the Camden and Amboy governed New Jersey, and the N. Y. C. was master in New York State. But this power, although apparently strengthening the hands of the railways, also gave birth to opposition from a quarter which hitherto had paid no attention to the railroad question. Men of light and leading, politicians, economists, etc., began to discuss it, and studied it in all its phases. It commenced to pour books, pamphlets, articles in reviews and editorials, and by these means the attention of the entire nation was prominently called to the question. Everybody began to see that the railway problem was a question of the most vital importance. The subject was thoroughly discussed, and the great number of just grievances against the powerful corporations, their discriminations, vices, and abuses, their nefarious practices in respect of capitalisation, and, above all, their corrupting influence upon business and upon the Legislatures, their contempt for legal decisions and public opinion, were prominently brought before the people. Some men, like Professor Hadley, of Yale College, and Mr. J. F. Hudson, proposed the most sweeping reforms, such as State purchase or Government control. Others, like Mr. Fink and General Alexander, defended the railways; but the majority were in favour of a fair and just regulation, and the outcome was that representative bodies began to discuss the matter. The New York Chamber of Commerce appointed the Hepburn Committee, which collected and published evidence of 5,000 different cases of discrimination, bringing out a report which stirred the entire commercial community and caused a sensation all over the United States. Meanwhile the "Wabash case," briefly mentioned before, had shown States to be impotent as regards interstate traffic, and the result of all this was that during the winter of 1884—85 Congress found itself occupied with the problem. On March 5, 1885, the Federal Legislature adopted its usual course by appointing a committee; this was presided over by Senator Cullom, of Illinois, and in the following year it brought out its report, the preface of which said: "The Committee is convinced that at present no question of Government policy occupies such a prominent position as the railway problem." From these words the reader may to some extent deduct how intolerable matters had become.

During the next winter (1886—7) the battle raged fiercely in Congress. The railways were well represented, for even in Congress they had their representatives; but they were powerless against the mass of the people, and the Interstate Commerce Law was passed. Before we can discuss this important measure the exact relation between the law and the railways must be defined. To attempt to do this is a very dangerous thing for a layman; yet I will try to briefly state the main points as I gathered them from various books and interviews.

One of the most important legal principles relating to railways in the United States is that they are public highways.[1] Formerly the railroads denied this, and said they were private enterprises, but at present they acknowledge it. If they were not public highways their charter would be invalid, because the Constitution denies to the Legislature the right to grant the "power of eminent domain" for other purposes than public benefit. The railroads being public highways it follows that the legislatures have the power to regulate them.[1]

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[1] Hudson on the Law and the Railways p. 117, *et seq.*

Railways lying within one State are subject to the laws of such State only. Lines traversing more than one State are in addition subject to Federal legislation, and wherever the two are conflicting Federal laws are supreme over those of States.

It has never been the object of any legislation to deprive the railways of rightful earnings on their capital, but all laws and courts show determination to guard the public against abuses. It is worthy of note that all Courts have always been anxious not to hurt the credit of the railways abroad by their decisions, and that the Courts always duly protected and in some cases favoured, the interests of the foreign investor.

Discrimination has emphatically been pronounced illegal by all U. S. Courts before whom the question was brought. It is also contrary to the fundamental principle of American government that all men have equal rights, and that violation of such rights is against the Constitution. Railways being agents of the Government[2] they may make no distinction between man and man.

It is unlawful for a railway to induce shippers to favour a particular line beyond its own.

With these principles clearly defined before the Cullom Committee was appointed, the stipulations of the Interstate Commerce Act could be foretold. It bears the title, "An Act to Regulate Commerce;" a better name would be "An

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[1] Hudson, The RR. and the Republic.

[2] Ib.

Act to Prevent Discriminations." The following are its principal stipulations:

The first section specifies the carriers which shall be subject to its provisions, and in general terms re-enacts the common law provisions in regard to reasonable rates; but the essential provisions of the law are contained in the second, third, and fourth sections, and are as follows:

Sec. 2.—That if any common carrier subject to the provisions of this Act shall, directly or indirectly, by any special rate, rebate, drawback, or other device, charge, demand, collect, or receive from any person or persons a greater or less compensation for any service rendered, or to be rendered, in the transportation of passengers or property, subject to the provisions of this Act, than it charges, demands, collects, or receives from any other person or persons for doing for him or them a like and contemporaneous service in the transportation of a like kind of traffic under substantially similar circumstances and conditions, such common carrier shall be deemed guilty of unjust discrimination, which is hereby prohibited, and declared to be unlawful.

Sec. 3.—That it shall be unlawful for any common carrier, subject to the provisions of this Act, to make or give any undue or unreasonable preference or advantage to any particular person, company, firm, corporation, or locality, or any particular description of traffic, in any respect whatsoever, or to subject any particular person, company, firm, corporation, or locality, or any particular description of traffic, to any undue or unreasonable prejudice or disadvantage in any respect whatsoever.

Every common carrier subject to the provisions of this Act shall, according to their respective powers, afford all reasonable, proper, and equal facilities for the interchange of traffic between their respective lines, and for the receiving, forwarding, and delivering of passengers and property to and from their several lines and those connecting therewith, and shall not discriminate in their rates and charges between such connecting lines; but this shall not be construed as requiring any such common carrier to give the use of its tracks or terminal facilities to another carrier engaged in like business.

Sec. 4.—That it shall be unlawful for any common carrier subject to the provisions of this Act to charge or receive any greater compensation in the aggregate for the transportation of passengers or of like kind of property, under substantially similar circumstances and conditions, for a shorter than for a longer distance over the same line, in the same direction, the shorter being included within the longer distance; but this shall not be construed as authorising any common carrier within the terms of this Act to charge and receive as great compensation for a shorter as for a longer distance. Provided, however, that upon application to the Commission appointed under the provisions of this Act such common carrier may, in special cases, after investigation by the Commission, be authorised to charge less for longer than for shorter distances for the transportation of passengers or property; and the Commission may from time to time prescribe the extent to which such designated common carrier may be relieved from the operation of this section of this Act.

The fifth section prohibits pooling, and fixes penalties for entering into illegal pooling contracts. The machinery for enforcing the law consists of a permament Commission, appointed by the sixth clause. This clause also confers additional powers upon certain Courts, and orders publicity of rates. The latter, however, is of little benefit to the public because a tariff list is a volume interlaced with written leaves and countless amendments, amendments upon amendments, etc.

Upon this Act and a Commission on which the Government expends $100,000 per annum, rests the task of regulating the traffic on 170,000 miles of railway, representing more than $10,000,000,000, of capital, earning about $1,100,000,000, annually, and carrying some 400,000,000 passengers and 500,000,000 tons of freight.

When the Interstate Law was about to be passed, railroad people throughout the land were in a state of high excitement; to most of them it seemed a measure which would ruin the railways; some predicted even that it would make the entire country bankrupt. Mr. Chauncey M. Depew, president of the New York Central and H. R. RR. and one of the foremost authorities on railroads declared it would depreciate the value of Western farm lands to the extent of 50 per cent, although six months after it was passed the eloquent "first gentleman of America" dwelt upon the remarkable inflation of the value of Western farms. Senator Stanford of the Southern Pacific said in Congress it would be most disastrous to all business interests of the country. Mr. Newman of the Union Pacific, opined it would lessen tonnage and increase expenses. Mr. Clark, of the Illinois Central, predicted the biggest panic the country had ever seen, and Mr. H. V. Poor foretold that a rigid application of it would destroy the greater part of the domestic and foreign trade of the country. From these public utterances of the foremost railroad authorities of the country one can infer what the railroad interest expected from the Interstate Commerce Act.

These expectations, however, remained unfulfilled, and for the past four years neither trade nor the railroads have done badly. Nor can this be wondered at, in view of the fact that the Interstate Commerce Act has in most respects been a failure. With regard to some things it did a certain amount of good, no doubt; but in other respects it had results which are not at all desirable from the public's point of view. It certainly did not do what the Legislature aimed at, regulating interstate commerce, or, in other words, settle the railroad question by putting a stop to discriminations and by causing ideal tariffs.

There are two ways of looking at the railroad problem in the States as it now stands; the public sees it in a different light, and has requirements other than those of the railroads or their shareholders. It is necessary to consider both sides, for the requirements and tendencies of the public are of the greatest importance to investors, as has been sufficiently shown. We must, therefore, say which consequences the Act had for both.

The public saw pooling and some discriminations put a stop to, but only to a certain degree, as will be seen afterwards. Safety appliances have been increased, as a result of statistics relating to this subject by the Interstate Commerce Commission. Moreover, the commission proved a valuable body because it settled disputes between the public and the railroads and investigated complaints with dispatch and at a small cost. On the other hand, by involuntarily promoting amalgamation the law favoured a slight increase of rates, which cannot have been the intention of its originators. But on the whole it may be said that the effect of the Act, as far as the public is concerned, has been favourable to a very limited extent.[1]

Upon railroads it had no wholesome influences, but here the disadvantages were as little pronounced as were the benefits to the public; and this, as will be seen later on, is a consequence of lack of power of the Act. Discriminations are forbidden, but still they exist. Pools are impossible, but associations and blind pools jointly take their place. But apart from that the Act proved to be unfair to the railroads as a body. It drove the poorer and weaker roads to the wall, and benefited the rich and strong railways. It would carry me too far to explain this phenomenon, but Mr. Walker's article in the *Forum* of July, 1891, will give details to those more deeply interested in the subject, and so will Mr. Stickney's "Railroad Problem." This result is certainly to be regretted; but it could not be foreseen, and undoubtedly it was beyond the intention of Congress to cause it. I said before that discriminations still exist; I might go further, and say that, after subsiding for a while, they are on the increase again, although the most disastrous and criminal species, discriminations against persons, do not appear to be in vogue to the same extent as before, which seems to be the case chiefly because their elaborate application is contrary to the interests of the roads themselves. The reason why discriminations continue to exist can be found partly in the Act itself. The "fourth clause" prohibits charging more for the short haul than for the long, but adds: "Under substantially the same circumstances and conditions," and this phrase possesses too much elasticity in a country where "laws are made to be evaded." Moreover, the Act possesses one fatal defect, which was pointed out to me by Judge Springer, a clear-headed lawyer who is third Vice-President of the Atchison. Railroad officials refuse to give evidence in discrimination cases on the ground that no citizen can be required to incriminate himself, and in consequence access to books and documents, as a rule the most desirable evidence, is impossible. To remedy this evil a decision of the Supreme Court is now awaited, but it seems doubtful whether a fundamental legal principle will be sacrificed.

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[1] A. F. Walker in the *Forum*, July 1891.

Thus the Act lacks those elements which would give it strength, and it may be considered very fortunate for the railways that such is the case. With all its weakness it did some good to the public and some harm to the corporations. Had it been more potent the result would have been intensified for each of the two opponents. The public would have derived what at first would have seemed to be material benefits, and the railways would have suffered to such an extent that the most disastrous results might have befallen the entire system. There is no reason to suppose that men like Depew, Newman, Clark, or Poor, committed errors of judgment when forecasting such evil results as they did. Mr. Poor, who added " if rigidly enforced," seems to have taken the most accurate view of all. And it is fortunate indeed for the people as well as for the railroads that the Act had from the outset such weaknesses as would prevent its being applied rigorously, and as would destine it to become a failure. But with all that the question is not settled. The demands of the public, in some cases just, and in most, if not all instances, provoked by the railways, remain. So does the great curse of the railroad system, excessive competition. But this fault is rapidly being cured by the self-application of that potent remedy, the growth of the Republic, which causes a development of trade travel and traffic that will obliterate the most evil effects of competition. But a law which endeavours to abolish discrimination, a consequence of competition, and permits competition itself to rage unabated, is to say the least incomplete, and according to some even an injustice; and if it is a success as a law it still must be a pitiful failure as a means of settling a vexed question in the interest of all concerned; for it must be remembered that the public has as great an interest in a just settlement of the question as the railways. There is nothing which would have such disastrous effects upon the community at large as the breakdown of a vast interest like railroads.

From all that has been said before the complicated nature of the railroad problem will be apparent; and it is evident too, that the question of its solution is of a still more complex nature. To do it by law is extremely dangerous, perhaps, I may say, is sure to be disastrous. The question now is, Will a similar settlement be attempted once more? I believe not. There are numerous signs that legal interference will not work, and that it falls back upon the country. This has been proven in Iowa, as we shall see below; and the inference is that the solution of the problem will be left to time, and to time alone. To do this has been the tacit advice given by the effects of the various laws as they now stand. They have been a very effective warning to all parties concerned. They have shown the people how dangerous it is to interfere with the railroads. They have taught the railroads how dangerous it is to wrong the people. The lesson will be wholesome for both parties. The people will become less assuming and preposterous in their demands. The railways will take care not to again rouse public indignation by renewing the causes of the old grievances. The result will be a more amicable understanding, a clearer conception of the strong ties of mutual interests connecting the two great antagonists. Moreover, the railways are at present conducted upon principles contrasting with those of the old "railroad people" as day contrasts with night. The unscrupulous, reckless, dishonest element is being gradually expelled from the rank and file of railroad directors, and men of integrity, fully conceiving their responsibilities and their duties, are replacing it. This is the best guarantee against dangerous laws. They were provoked by rascalities; now that these are fast disappearing the provocation vanishes too.

As to the State laws, something must be added respecting them also. They have this in common with the Interstate Law, that they aim at the prevention of discriminations; they differ from it because they fix tariffs, and hence they are more dangerous. At the same time they are more hostile and less reasonable. The farmer is malcontent and often unreasonable all over the world; especially in the States. Moreover, he is stubborn, and his intellectual range of view is rather limited. The outcome of this is that his laws are unjust, unfair, and in the end as injurious to himself as to the railways. Controlling the Northwestern State Legislatures, the Granger passed laws and appointed Railroad Commissions. The latter made rates, but lacked the knowledge required to understand their importance. Rates undoubtedly are the most difficult part of railroading. There is no hard and fast rule according to which they can be fixed or regulated, and the elements of calculation are vague and vary constantly. To understand them requires a vast amount of experience, of labour and of investigation, of knowledge and of patience. To fix them requires a greater amount of judgment, impartiality, and reason than the Grangers or their railroad commissioners possess. Hence their laws and rates were irksome and dangerous. Sometimes their tariffs were above existing rates, sometimes below; but they never did any good. Perhaps they may have saved the farmer a dollar now and then in a direct, tangible way; and beyond that he does not look, not even if he suffers indirectly. But these small individual gains were offset a thousand times by losses befalling the entire community. State interference had the result that States meddling with the railroads suffered in their growth. In a marked degree this has been the case with Iowa, and gradually the Granger commences to see the error of his ways. On the whole the effect of State intervention, therefore, has been akin to that of the Interstate law. It was a warning to either side, and as such it is likely to have wholesome effects upon both parties.

The inference to be drawn from all that has been said of the relations between the legislative bodies and the corporations, therefore, is not of a nature that need cause alarm. If the railways give no reason for complaint the Legislatures will have no reason to interfere with them; if they revive the old or raise new grievances, the worst results may ensue. But the great and rapid improvement in the standard of railroad morality safeguards, I think, against a return to the objectionable practices of byegone days. They cannot be reasonably expected to cease at once; but even a gradual improvement is valuable, and it is fortunate that such improvement, perhaps even more than gradual, is one of the characteristics of the American railroad system of to-day.

PART II.

THE RAILWAYS AND THEIR RIVALS.

CHAPTER IV.

COMPETITION AND ITS CONSEQUENCES.

In 1890 the United Kingdom had a population of 37,740,000, and the total mileage of all railways was 30,926;[1] In the same year the inhabitants of the United States numbered 62,622,000, and according to *Poor's Manual* the railways of that country had a total length of 166,817 miles. Hence for every thousand inhabitants the United Kingdom had $^{4}/_{5}$ of a mile of railway, the United States $2^{2}/_{3}$. We know how far railway competition goes in England; and after making due allowance for the larger area of the Republic and the greater necessity for railways in that country we can still understand that with a mileage *per capita* exceeding ours to the extent of approximately 200 per cent. competition must assume proportions unknown in Europe.

I have already called attention to the fact that before he has gone through the formalities of the Custom House of New York the stranger receives proof of the intense rivalry existing between American railways; but no description could convey such a clear idea of its extent as the following comparison between English and American conditions. Let us remember that probably no other two cities in Europe have better communications with each other than Liverpool and Manchester, nor a heavier interchange of traffic. Of these two towns, as is well known, each has a population of approximately 800,000 inhabitants, and the country tributary to the lines connecting them contains, say, four million people. Yet between the two great centres there are but three direct and different railway connections.

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[1] Hazell's Annual, 1892, p. 584. The figures given for English railways include *first and second track only*; those relating to America indicate the total trackage. This alters the proportion slightly in favour of English railways.

Now let us see how matters stand in America. Chicago and St. Louis have an aggregate population of 1,750,000, and the State of Illinois, through which nearly all connecting lines pass, boasts of 4,000,000 inhabitants, those of Chicago of course included; seven railway companies cater for traffic between the two points, There are four great direct lines between such points as Omaha and Denver, five between Chicago and Cincinnati, six between St. Paul and Kansas City, and seven between Chicago and Des Moines (Iowa) while as many railways connect the western metropolis with St. Paul and with Peoria. These numbers only relate to direct routes, and if we would count all intermediate lines most of them would be considerably increased. For instance there are twenty-two different "lines" [1] between Chicago and New York, and between the latter city and New Orleans there are not less than a hundred and six "lines" along which freight can be and is shipped almost daily, although the distances vary from the minimum of 1,180 miles to the maximum of 2,053. The rates in all cases of course are the same for through shipments, otherwise these "lines" would not be competitive.

This excessive competition was an inevitable result of circumstances to some of which we have already referred. The absence of all restraint or supervision whatsoever on the part of the Government, the general desire of everybody to see railways everywhere, and the safe profits to be made out of railway construction [2] account for it. Railways, like landed property, frequently have their booms in the United States, and if a railroad craze once possesses itself of the people these means of transportation are "boomed for all they are worth," a terrible inflation ensues, and lines are built right and left, often without the slightest regard for their necessity. In each of the years 1870, '71, and '72 the mileage was increased more than ten per cent. as a result of the "general boom" that set in soon after the War of Secession was concluded. In 1882 and 1883 over twenty thousand miles were completed, and in 1887 alone 12,983 miles of iron roads were built. What was the "railway craze" of England compared with these efforts to increase the extent of the American railroads? Within three years new lines were built in America which in mileage exceeded the entire system Great Britain constructed in half a century!

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[1] A "line" in American railroad parlance means a combination of small railways forming a through route between main points.

[2] See Chapter VIII.

The results of the rapidity with which the American railway system has been built are obvious. There can be no doubt that it gave a powerful impetus to the development of the country, that but for the rapid construction of railroads the United States would not be what she is to-day, that the amazing prosperity of the republic is primarily due to the iron arteries of trade which gridiron her fertile soil. But there can be as little doubt that there were also less satisfactory consequences. The gain resulting here was offset by loss yonder. What Mr. C. F. Adams calls "the era of construction" in some respects was also a period of destruction. Large fortunes were made, but it was at the cost of numerous smaller ones. The country gained wealth, but it lost credit. Together with the era of construction dawned an era of commercial immorality, of corruption, fraud, swindling and dishonesty such as is not likely to be seen again. Useful employment for vast sums of money was found, but an amount almost equally formidable was wasted, though it might have been employed elsewhere with better results. There were "booms" and large gains; but in their wake followed depression of trade and commercial disaster. There came railways which were needed, but there also came lines which were not needed, and therefore hurtful. Above all there came an overdose of competition.

There is nothing, not even frauds, which for capitalists who invested money in these enterprises has been more disastrous than the excessive competition which has reduced rates and profits to such a phenomenal extent. Competition, as I remarked before, is due chiefly to two causes, namely to an over-estimate of the coming demand for transportation and of the development of the country, and to the fact that the building of a road was profitable to those who undertook it. But causes, at least with regard to the purpose of this chapter, are less important than effects, and as to the latter, nobody doubts that competition is responsible for the bad condition which the affairs of numerous companies got into. To some extent, and in some parts of the States, the requirements of business are growing up to the capacities of the railroads, as, for instance, in the States of New York and Pennsylvania. But as a rule railways are still too numerous to be profitable, and the supply of facilities for transportation is greater than the demand. The anthracite coal district, for instance, could get on very well with three fourths of its railroads. The Northwest could have reached its present stage of development with fewer railways, and no mean portion of the lines of either the St. Paul or North-Western could be broken up without very serious results to the community. The Burlington, Rock Island, Missouri Pacific, and Atchison Companies also have too many lines serving the same region, although the country is gradually growing up to them. Four Pacific roads—the U. P., N. P., Great Northern, and Canadian Pacific—offer much more transportation than the Pacific Northwest requires, and still there are rumours of more roads to the Pacific Coast, while throughout the West we find indications that the craze for building competing lines has not entirely subsided. For instance, the Chicago, St. Paul and Kansas City RR., a railway started in 1886, was acknowledged to be built to compete, and is absolutely unnecessary; true, it does a fair business, but the other roads get so much less; and it forced a new partner into a firm which already found it difficult to sustain its senior members.

It can cause little wonder that under such circumstances competition soon became hurtful to the investor. Where the supply of transportation was so much in excess of the demand its price could not but fall to a point at which adequate profits in most cases were impossible, and rates necessarily fell to a level which rendered the earning of adequate returns upon capital an impossibility to many companies. Yet it should not be overlooked that competition, even where it existed so excessively, had its compensating consequences. One of the most prominent among its salutary effects was that it contributed substantially to the growth of the country. If less railways had been built, the States, and notably the West, would never have advanced with such rapid strides, for it has been shown that without low rates, the result of competition, agriculture would be impossible in many regions flourishing with low transportation charges; and thus competition actually made business. It placed the Western farmer in a position to compete in the world's markets, and gave birth to scores of industries, great and small, thereby causing an increase in the volume of traffic which in a measure has offset the effects of the universal and remarkable decline in rates upon earnings. Further, competition improved trains and passenger as wel as goods service, and thereby stimulated to travel. It alsol perfected the Americans in the art of moving freights cheaply, an art in which they are unexcelled. Yet the compensation it offered was not absolute, and it is evident that from the shareholder's point of view competition is a nuisance, even if given in moderate doses: the investor wants a monopoly. But to the public, which wants competition, it has been a blessing, although it cannot be said that in America it was an unmixed blessing. Hence, with regard to competition, the investor's interests, at the same time the interests of the railroads, are diametrically opposed to those of the nation, and the optimists who hope to see better rates will do well to remember this. To uphold rates is the aim of the managers; to lower them is the aim of the nation; and the nation, which makes laws, has shown itself to be stronger than the managers, who make rates.

Of the conflicting nature of the interests of the people on the one hand, and of the railways on the other, there has been no stronger proof than the successful opposition to pooling to which we have briefly referred before. The pool was a combination of railroads engaged in competitive traffic for the purpose of maintaining rates by suspending competition, and hence it was opposed to the interests of trade, which is thereby deprived of the natural advantages arising from a vigorous competition. We have seen that the public regarded pools with a great deal of apprehension and that in consequence they were forbidden first by the State Legislatures, and afterwards by the Interstate Commerce Act; but even if this had not been the case they would, in all probability, have been abolished by the railways themselves because, in spite of all arguments in their favour, they were of no real benefit to the companies, as has abundantly been shown by various writers;[1] it may be said that pooling had no advantages for anybody except unscrupulous managers. In but very few instances did it maintain rates for any length of time.[2] When the railroads had but a small volume of business it was found that pools could give no relief; with a large traffic and in prosperous times they proved superfluous. A pool compelled strong and direct lines to divide business with weak and roundabout ones, certainly no just principle. It had, in fact, nothing in its favour, and was opposed to the interests both of the public at large and of the investor. It was resorted to by the railroads in the hope of increasing earnings, in the expectation that it would improve the returns upon a heavy and for the greater part fictitious capitalisation; but the attempt failed, as is demonstrated by the acknowledged fact that rate wars never were as frequent as in the times of pooling.[1] The reason of the failure of pools is not far to seek. The adhesion of all the members of a combination is necessary to give it strength, but the dissension of one is sufficient to cause weakness, and this has been the weak point of all pools. Some "railroads boss" commenced to "bear" his stock[2] and then started "cutting" rates to influence the markets; a general demoralisation of rates followed, and, of course, whatever had been gained during a few months of successful pooling was lost during one week of cutting. To withstand the temptation of making vast sums in such an easy manner would require a nature more than human, and the result was that rate wars were of very frequent occurrence, and that American securities never were subject to heavier fluctuations than in the times of pooling. If one road started cutting, all the other members of the pool were forced to follow suit, and as a rule they made rates still lower than the original "cutter" to force him back into the pool.

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[1] Hudson, *The RR. and the Republic*, p. 258—60. Swann, *Notes on Amer. RR.* p. 55.

[2] Only three pools were fairly successful, namely the Petroleum, Anthracite and Cattle Pools, which remained in existence for some time because they were supported by their connection with private interests. Yet the losses caused by their termination probably offset all former gains, a serious decline of rates following dissolution in each case.

These rate wars caused immense losses in a very short time. There is one instance on record where the Pennsylvania Railroad reduced the passenger fare from New York to St. Louis, a distance of over a thousand miles, to $ 1.00; and similar reductions were frequent. The stronger road as a rule would win the game, and the weaker one would surrender; but, meanwhile, one week of cutting counter-balanced a year of harmony, and hence it cannot be seriously argued that pooling ever resulted in profits to shareholders. The weak point of all similar combinations, as I said before, consists in the power of each member to become dissentient, and in the strong temptation to use that power. But pools were still less desirable to the public than to railroads and their owners. Fluctuating rates of any kind demoralise business, but, in addition to this disadvantage, pooling was characterised by a tyranny against which the public revolted the more because it was unlawful.[1] The constitutions of Arkansas, Illinois, Colorado, Georgia, Michigan, Missouri, Nebraska, Pennsylvania, and Ohio forbade it long before the Interstate law was passed, and the railways probably were well aware of the unlawfulness of this practice, because they never carried a pooling " case " before the United States Supreme Court. Under these circumstances it can cause no wonder that Congress followed the example set in England and forbade pooling, the prohibition of this practice being at once the most prominent and the most successful feature of the Interstate Commerce Act.

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[1] Hudson's *Railroads* p. 240.

[2] There never were larger fluctuations in the prices of RR. securities than in 1877 and 1880, the great pool years. It is notorious that RR. Managers concerned in pools made vast fortunes in Wall Street.

But, although pools became impossible the necessity to discover some cure for competition remained, because competition was the fundamental defect of American railways. For all kinds of discrimination competition, the desire to get the better of the rival, is responsible, and the decline in rates as well as the insolvency or bankruptcy of many companies also arise exclusively from excessive competition. It is true competition had its compensating results, and moreover it is a necessity of trade. Free, sound, healthy competition is the soul of business life and in the interest of the community; and as it has been abundantly shown that the demands of the nation in this respect will be enforced by the legislatures, we need entertain no fears that the railways will ever succeed in exterminating it. This, however, they do neither desire nor need. Healthy competition can do them little harm, because solvent companies will never go below a certain limit. But it is unhealthy competition that railways wish to guard against, and, of course rightly. Hitherto the public, however, have not concurred in view with the railroads. People have hailed competition of any kind, sound and unsound, scrupulous and unscrupulous, fair and unfair, and they have hailed it because it reduced rates, and in consequence apparently benefited the mass of the people. But the nation overlooked the grave danger that may arise out of unprofitable rates. It never stopped to think over the immense loss inflicted by a competition which caused a great amount of capital to lie unremunerative and idle. It never considered the losses caused to trade by fluctuating rates, because these were less tangible than a decline in rates, although far more important. And it certainly never thought of the indirect consequences which an unprofitable business must have upon an interest representing one-tenth of the nation's wealth, earning it is true, a thousand million dollars per annum,[1] but returning at least one-half of it in the shape of wages to the 2,500,000 people it employs. Certainly no "greedy Granger" ever reflected deeply enough to see that if he succeeds in compelling railways to carry his wheat, corn, and cattle at a loss, he himself will be the first to suffer from the decline in prices of commodities and lands, from the panic which must follow adverse laws or an unprofitable business.

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[1] In the U. S. the same view of pooling has been taken as in England, where the Vice-Chancellor declared the contract "so clearly and palpably illegal that I do not think the court ought to hesitate" (Charlton vs. Newcastle Railway Company 5 Jur. N. S. 1096).

To destroy a healthy competition is beyond the power of the railways, and, it may be confidently said, also beyond their intention. But to abolish, and if that is not possible, to mitigate the results of excessive rivalry has been their constant aim. What railways wish for is the maintenance of rates at a level not objectionable to the public, and still profitable to themselves; the proper level, therefore.

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[1] In 1890 gross earnings amounted to $1,097,847,000.

Formerly it was thought this could possibly be effected by pools, but pools have not fulfilled expectations, and possessed disadvantages which rendered them objectionable to almost every one concerned. But although pools have failed to hit their aim other agencies have been at work which bid fair to prove a potent remedy against the worst results of an excessive competition; and among these agencies none has had such far-reaching results as consolidation.

CHAPTER V.

CONSOLIDATION.

In history it would be difficult to say exactly where one era ends and another begins, history being a process of gradual evolution rather than a succession of more or less sudden changes. For that reason two great events are generally conceded to form the dividing lines between the three Ages, and, broadly speaking, the downfall of the Western Empire and the discovery of America separate from each other the three great stages of the progress of the world.

The history of American railways also knows three great subdivisions: the Eras of Construction, Competition and Consolidation. The former is generally assumed to be closed by the completion of the first Pacific road in 1869, which marked the end of the period of Construction and the commencement of the Era of Competition; and the latter gradually dissolved itself into the Era of Consolidation which matured in 1887, when the Interstate Commerce Act was passed. It is manifest that this division does not imply that construction ceased in 1869, and competition in 1887, nor should it lead to the deduction that there was no consolidation before 1887; we simply divide the history of the American railroad into three eras because conditions in spite of their gradual development, now and then culminated in conspicuous events which more distinctly than others marked the changes to which railways in the United States were subject.

In the preceding chapters I have outlined the history of the system up to what, for the sake of comparison, I will call the end of the Middle Age of American railroads. The knowledge of what lies beyond would be of little value now if it were not indispensable to all those who wish to understand subsequent events, and this is the reason why brief reference to its leading characteristics was made in the foregoing pages. The knowledge of present conditions, however, is of far more import, and for that reason I must now proceed to describe the American railway as it is to-day.

I spoke just now of consolidation, and no doubt this is one of the most prominent characteristics of the American railway system. Numerous small lines are continuously absorbed by larger systems, and sometimes great corporations amalgamate with each other. The phenomenon in itself is neither wonderful nor isolated. In England and on the European Continent consolidation of railways commenced years ago; it was carried on almost to its utmost limits, and in Great Britain, France, Belgium and Holland a few great companies which have parcelled out the transportation business of their respective countries have taken the place of scores of minor corporations formerly leading a separate and independent existence. Nor is consolidation of business interests confined to railways alone. Shops, banks, manufactories, steamship, telegraph and mining companies amalgamate with their fellows, either voluntarily because in union lies strength, or what we may call involuntarily, largely because of ruin threatening to result from the competition of vast and wealthy interests. In almost every country the rise of giant corporations is one of the most conspicuous features of modern business life, but in none has it assumed such vast proportions as in the United States. The complaint that in the Great Republic the large interests crowd out the smaller is heard daily, and in almost every branch of trade and industry we see control vested in a few great enterprises.

In New York vast stores have the lions's share of the dry goods business; in Philadelphia, Chicago and Boston it is the same. Groceries go the same way as cloth and draperies. Sugar and tobacco are in the hands of trusts, lead, soap, and numerous other articles of daily use likewise, and countless industries are controlled by cliques whose power and number increases from day to day. And with the pronounced tendency towards amalgamation of businesses it can excite little wonder that control of transportation, a commodity more universally used than any other, is gradually becoming vested in fewer hands.

The fact that amalgamation is carried on in America is well known to English readers. That which to day is the Pennsylvania system, embracing 8,000 miles of railway, is an amalgamation of more than a hundred smaller lines. The Erie owns, leases, and operates more than forty smaller railways, now merged into one homogeneous whole. The Richmond Terminal system consists of scores of Southern lines all of which at one time or another had a separate existence. The Southern Pacific, the Illinois Central, the "St. Paul," the Missouri Pacific, in short, all great systems of to-day acquired their quality as such by gradual absorption of or amalgamation with other lines. The Vanderbilt system, now comprising some 25,000 miles of railway in the United States, originated in the New York Central, itself an amalgamation of seven small roads between Albany and Buffalo, effected by Commodore Vanderbilt. The Atchison system grew from a small line, connecting two obscure townships in Kansas, some ninety miles distant, into a giant network of lines traversing a dozen States and comprising over 9,300 miles of railway. Amalgamation has been at work everywhere, and there are no indications of abatement. Just as there are some people who predict that the entire world will ultimately be divided into a few great Empires, so in America we find people who forecast that consolidation of railroads will cease only when all lines are combined into a few vast systems. Whether such a result is to be anticipated or not it would be somewhat venturesome to say; but there can be no doubt that amalgamation of railway interests in the United States has been carried to an extent which fifteen or twenty years ago nobody could have foreseen. At the close of 1889 there were approximately 2,450 minor companies which had ceased to lead a separate corporate existence and were merged in others, mostly into one of the 33 vast companies to which nearly one half of the American railways belong. In 1889 these 33 companies had a total length of 77,000 miles, but since that date, later than which no statistics are available at the time of writing, numerous other consolidations have been effected. For instance, the St. Louis and San Francisco RR. and the Colorado Midland have become parts of the Atchison, the Ohio and Mississippi and Pittsburgh and Western have become members of the Baltimore and Ohio system, the Rome, Watertown and Ogdensburg has joined the New York Central, while control of hundreds of smaller lines has been acquired by larger systems; and I believe it is no exaggeration to say that to-day, counting all Vanderbilt lines as one system, there are in the United States twenty-five systems controlling at least 100,000 miles of railway, while 150,000 miles are in possession of not more than 75 companies. And of these systems there are some of great magnitude controlled by a few men. The Vanderbilts hold sway over upwards of 25,000 miles of the best lines; Jay Gould controls the two principal systems in the Southeast and Southwest, the Richmond Terminal and the Missouri Pacific. Huntington owns the Southern Pacific, Rockefeller the Northern Pacific, Wisconsin Central, and "Maple Leaf," and men like Pullman, Leiter, Armour, Swift etc. are said to form a clique controlling most railways in the Northwest, while Astor and other millionaires command other systems. What are the causes of this concentration of power, by what means is it accomplished, and how does it affect the railways?

First, as to causes. It is quite obvious that the principal purpose of consolidation is the abolition of excessive competition. Competition led to most of the evils that befel American railways; it caused constant rate wars and a reduction of revenue. There were too many railways, too many hostile interests; and it is quite natural that a reduction of their number was aimed at. This was attempted first by pooling, but, as we have seen, pooling was a failure, and other means had to be found which would prove more successful. Another motive was the thirst after power characterising most railway managers. War was not only conducted openly by means of competition and rate cutting in order to secure business, it was also carried on secretly; and managers were scheming and intriguing one against the other with the object of obtaining power. Every "railroad boss" was permeated with a desire to make his system great, to oust his rivals; and this desire prompted his every action. Consequently railroad presidents were always attacking others and defending themselves. There was a constant struggle not only for life, but also for supremacy. Every one was attempting to crush his rivals and to conquer them; but at the same time every company had to be protected against being destroyed and defeated itself. It was plainly seen that consolidation was desirable in the interest of railways; but it was also furthered because of personal motives.

A president or manager whose line was sold or leased to another became dethroned, one who bought other properties became more powerful, saw his power, his prestige and his private income increase; and the consciousness that this was so lent a personal piquancy to the bitter fight and rendered it the more interesting. There are in the annals of finance hardly any pages as exciting as those describing the battles fought between Vanderbilt and Drew for the control of the Erie; and almost every railway was an Erie and had its Drew and its Vanderbilt in a small way. The battle was usually decided by the strength of the armies, by the wealth or magnitude of the companies, by the skill of their generals and their intellectual and pecuniary resources. Sometimes a dozen small companies would be conquered with one single stroke by a great system which thereby saw its power and its influence doubled; sometimes a clumsy Goliath corporation found a skilful David who erased its name from the roll of existing lines and suddenly became a great railroad itself. Most great companies are of very humble birth and rose from an obscure to a prominent position.

Of late years the tendency to consolidate has not abated. It has not, perhaps, as Mr. Walker asserts[1] assumed vaster proportions on account of the Interstate Commerce Act, which drove weaker roads to the wall; but it has certainly increased in the same ratio as has the capital invested in railways.[2] The progress of absorbtion of small lines by vast corporations continues; in addition we witness some consolidations of vast dimensions. Within recent years the Vanderbilt system absorbed the "Big Four" and the Rome Watertown and Ogdensburg Railroad, and gained influence, it is believed, over the Chesapeake and Ohio and some "Coalers." The Atchison obtained control of two great systems, and I am told contemplates the acquisition of a third. The Rockefeller interest, owning the Northern Pacific, seems to have become closely connected with the Baltimore and Ohio, and the latter re-leased the Ohio and Mississippi RR. and controls the Pittsburgh and Western. The most formidable conquest of recent date, however, has been that of President McLeod of the Philadelphia and Reading RR., who has united most "coalers" whose business centres in the Northeastern corner of Pennsylvania. In some cases, it is true, an attack did not always lead to victory; Jay Gould's alleged designs upon the Atchison for example were defeated, and as we only hear of victories we know little of the attempts that fail. But in spite of some failures consolidation steadily progresses, and the time seems not very distant when the major part of all railways will, to use the vernacular, be "bossed" by six or seven great interests.

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[1] *Forum*, July, 1891.

[2] Report Interstate Commission 1890, p. 76.

There are, in the main, four methods of effecting consolidation: —

1. By acquiring ownership.
2. By leases.
3. By traffic agreements.
4. By Associations.

The limits of the present work do not permit entering into exhaustive details with regard to these means, there being various ways of purchasing and an endless variety of leases and agreements, which, wherever such is necessary, will be described when individual lines are dealt with. Some general observations, however, seem pertinent at this juncture.

Ownership can either be absolute or partial. A company may own all the stock of a subsidiary railway, as for instance in the case of the Erie, which owns all the shares of the re-organised Chicago and Atlantic. It may own only a controlling interest, a method adopted by the Atchison in its relations with the St. Louis and San Francisco RR., the former company owning $15,861,000 in shares of the $30,000,000 issued by the latter. It may own a railway jointly with another company, as is exemplified by the joint ownership of the Great Northern and International RR. by the Missouri Pacific and the Missouri, Kansas and Texas railroads. Lastly, a majority of stock of two or more companies may have a common owner, a principle underlying the control of the Vanderbilt lines. In all cases absolute control must be an inevitable result. The latter method seems the most desirable, because it affords very few opportunities for frauds; the former are open to several objections. Purchases have been known to be made chiefly because the acquired property had first been bought by gentlemen who happened to be very intimately connected with the purchasing company; part ownership has led to speculations before the purchase in which, needless to say, some people "in the know" were involved; and joint ownership is unsatisfactory because it is apt to lead to squabbles, the more so since the joint owners are frequently competitors. Of all forms of ownership that to be found in the case of the Vanderbilt lines seems the best. With this method frauds are impossible; the New York Central for instance can never be accused of having paid too much for the Lake Shore. Further, common ownership leaves combined railways independent of each other so that the strong parts of a system are not impaired by the weakness of others; on the other hand it has this disadvantage that, as a tie between two railways, it is theoretically liable to dissolution at any time.

Of leases the variety is far greater than of forms of ownership. There are some that can be dissolved "while you wait," and there are others that will hold good until the crack of doom; some railways are satisfied with securing subserviency of the subsidiary railway for ten years, and others will not take it for less than 999, as we are reminded of by the firm ties by which the St. Paul and N. P. is linked to the Northern Pacific. Some leases stipulate that a fixed annual rental shall be paid, and others fix a progressive rental, or make it proportionate to either gross or net earnings of the leased line. Now the lessee guarantees nothing, then everything; in some instances he undertakes to make up any deficiency below a minimum sum, and in others he gobbles up all earnings above a certain maximum. In some cases even, as was the case with the "lease" between the Missouri Pacific and the Missouri Kansas and Texas railroads, stipulations are so loose that the lease can practically be dissolved at will, and that the lessee can either pay a certain sum or not, as he sees fit. But in the vast majority of cases the lessee guarantees to the leased road the annual payment of a rental, frequently regulated by its earnings, i.e. by its performance, certainly the fairest method of all. In many other cases interest upon bonds or a dividend upon shares is guaranteed, but this method is hardly as fair as the other because it does not give the leased company the benefit of improved business. But even in the most common form of leases there prevails such a variety that it is neither possible to enter into particulars, nor to generalise.

Traffic agreements are of an equally varied nature. In some cases two railways combine for the purpose of establishing through routes, as did the Chicago and Northwestern and the Union Pacific, instituting a through service between Chicago, Denver, and the Pacific Coast. A similar arrangement exists between the Canadian Pacific and the New York Central, between the Erie and Grand Trunk, between the Richmond and Danville and the Pennsylvania, between the Norfolk and Western and Louisville and Nashville, between the Baltimore and Ohio and the Reading: there are, indeed, not many lines which have no traffic agreement of some kind with other railways. In many cases a number of small lines combine to form through routes, and in all mutual interest is the motive; but the conditions underlying or regulating these agreements are of so varied a nature that it would be impossible to generalise with any degree of accuracy. There is no doubt whatever that such agreements are illegal, each line being required by law, as interpreted by various decisions of the U. S. Supreme Court, to forward shipments given for that purpose by any other line, and in return to forward its own freights over connecting routes without discrimination. But this law can be easily evaded by placing obstacles in the way of those railways with whom no exchange of business is intended. Moreover, no railway would refuse to receive freights, but it declines, and cannot in practice be compelled, to *give* freights to other railways than it intends.

The basis of traffic agreements is usually an apportionment of rates for through tariffs, but in the majority of cases, especially since the Fourth Clause of the Interstate Act came into being, the arrangements are kept secret. It is superfluous to remark that traffic agreements are a less stable form of consolidation than ownership or leases. Although they do undoubtedly connect various interests they are easily dissoluble and evasible, the more so because their illegality prevents their contractors from addressing themselves to the Courts of justice. *En passant* it may not be superfluous to point to the fact that traffic agreements usually serve another purpose than leases; the latter method of control is generally applied within the sphere of the controlling road, and to develop local freight business; traffic agreements are resorted to without the radius of local business, and with a view to develop through traffic. Ownership is resorted to for both purposes, and if applied judiciously and with honesty it is no doubt the most satisfactory method of amalgamation.

Traffic associations, which are also a result of the desire for consolidation, will be dealt with below. They link together various competing interests in particular regions but not on so firm a basis as ownership, leases or traffic agreements.

Consolidation being, as has abundantly been shown, one of the most pronounced features of the American railroad of to-day, the question naturally arises whether its results have been detrimental or beneficial to the railroad interest, and whether from a general point of view it is desirable or not. Although we shall have to consider the interests of the investor first, and those of the public afterwards, it would be injudicious to altogether ignore the latter, since, as we have seen before, the people of the United States have a word to speak in railroad matters. But whatever may be said of amalgamation, there can be no doubt that to the railways it has been beneficial, and that this has been so can cause no surprise whatever.

Economy and a decrease of hostilities have been the principal results of railway consolidation. It is quite evident that amalgamation enables railways to effect great savings. If we will but think of any of the great systems, and imagine how different matters would be if a large number of small companies continued to lead a separate corporate existence instead of being united into one homogeneous system, the great economy effected by amalgamation will be at once apparent. Instead of scores of main offices with a corresponding number of sets of officials there is but one, larger, it is true than any of the small companies would require, but considerably cheaper than the total that would have been required by numerous smaller companies; and in addition the facts that a great system can command the services of better and more efficient men than a small one and that its power as a factor in transportation business increases with its size should not be lost sight of. Further, there must be an important saving in the purchase of supplies; they are bought in large quantities, and the large company can have its own coal mines, its own workshops, and its own locomotive works, while it can maintain permament staffs of labourers and employees. That all this is impossible for small companies, and that both economy and earning power must result from such advantages needs no emphasising.

In the second place consolidation produces harmony. The greater Empires become the less frequent are wars; and with railways it is the same. Rate war between giant systems is no trifling matter; and hostilities between the two great systems known as the Pennsylvania and Vanderbilt lines naturally are far less frequent than they were in the days when over a hundred small lines occupied the places of the present two. War has become more formidable, more destructive, and in addition the generals who conduct it have a higher sense of their responsibilities than the petty presidents of bygone days. And as a result rate wars are fortunately far less frequent than they were of yore.

Greater facility in the working of railroads is also one of the wholesome results of combination. Formerly many a small road either had too much *personnel* and rolling stock or not enough, and the result as a rule was extravagant expenditure. With consolidation it is different. On a large system business varies according to divisions, seasons and periods; but staff and rolling stock can always be profitably employed somewhere and the strain sometimes placed upon special parts can be relieved without additional expense or loss of business. Thus a waste of energy is prevented, a better service maintained, and great savings are the result.

The effects of consolidation therefore have been most wholesome from the investor's point of view. As yet it would be less correct to say that peace reigns supreme than that war still is the device, but harmony is steadily increasing, and there can be little doubt that amalgamation is the cause; for that reason it should be noted with satisfaction that consolidation continues to progress. Upon the extent to which it is likely to be carried it would be idle to speculate. Of greater importance is the undisputed fact that with the progress of amalgamation the average returns of American railways have increased if we make due allowance for the constant decline in rates.

As far as the public is concerned, the consolidation of railroads has been viewed with a considerable amount of apprehension, chiefly, however, in connection with the increase of monopolies. Some writers, like Mr. Cook in his *Corporation Problem*, foresee general disaster as a result of the growth of monopolies in general, and of railway systems in particular, and urge the necessity of State interference. But against such objections a very forcible argument can be advanced: For at least fifteen years consolidation has been in constant and rapid progress, and during that period the average rate for all freights in the United States has fallen more than $33^1/_3$ per cent; and in spite of consolidation the rate of interest paid on bonds and stock declines year by year. With rates and returns constantly falling off it is difficult to see why the public should object to consolidation of railway interests.

Not the least conspicuous of the various means by which a consolidation of interests is effected are Traffic Association; and whereas most other forms of amalgamation spring from a two-fold motive, the abolition of injurious and injudicious competition and the acquisition of power, these Associations, unless we take a very suspicious view and connect them with a desire to manipulate the markets as was done in the days of pools, have no other aim than to combat excessive and immoderate competition.

In recent years Traffic Associations have gradually taken a most prominent place among those things which have a bearing upon railway matters in the United States. As we have seen above they owe their origin to a growing desire to maintain rates on a fair and stable basis, and for that reason they may in a measure be regarded as a form of consolidation, although they are this in a less pronounced degree than purchases, leases and even traffic agreements; for whereas it is the aim of these forms of consolidation to abolish competition and to maintain rates by uniting small railways into systems, the purpose of Associations is to suppress unsound rivalry by promoting an amicable understanding between competitive systems in particular sections of the country.

There are in the United States several Traffic Associations under various names. There is a Trunk Line, a Southern, a Southwestern, a Central, and a Western Association, and some of the members of these groups belong to smaller individual combinations; for example, various members of the Western Traffic Association have formed themselves into subdivisions and constitute minor associations for the purpose of discussing and settling local matters of too trivial a nature to be considered by the great Association.

The Western Traffic Association has the greatest number of members and is the most important of all such combinations. For that reason I have asked Mr. Finlay, its popular Chairman, to give me a written statement setting forth the origin, efficiency and permanency of the body over which he presides, and to say a few words relating to the means at its disposal for enforcing its rulings, and its effect upon rates generally. With that courtesy and readiness to impart information characteristic of prominent railway officials in America, who, I gratefully acknowledge, have rendered me the most valuable assistance in collecting the material for the present work, Mr. Finlay had the kindness to write: —

1. *Origin.*—It has long been recognised by many that rate wars bring no substantial benefits to either the community at large or to the common carriers throughout the country. The unsettled condition of freight rates creates an unsettled feeling in the minds of importers and wholesale dealers, who hesitate to buy in large quantities from fear that competitors may have the advantage of lower rates caused by a rate war which may soon be inaugurated, while a passenger rate war crowds the accommodations and facilities of the companies to their fullest extent for a few weeks or months at ridiculously low rates, during which time thousands of people, who would in the ordinary course of affairs have made their trips at a later and more convenient date, have made hasty preparations to take advantage of the situation. The congested condition of the trains, depots, and thoroughfares enormously increases the number of accidents, many of the greatest railway accidents growing out of the confusion incident to the large excursions and crowded trains. This period is usually followed by a season of regular rates and few travellers, and the retail stores in the trade

centres which were uncomfortably crowded during the rate war, are unusually deserted afterwards. On the other hand, the railroads fail to make reasonable earnings; indeed often incurring absolute loss. The stockholders not only receive no dividends, but are often fortunate if their road is not forced into the hands of a receiver. It is to avoid these consequences, especially in regard to their disastrous effect upon railway properties and stock-holders, and not to force rates above a reasonable and normal condition, that these associations are formed by the railway companies. That the public is correspondingly benefitted appears to be generally recognised. The Western Passenger Association was organised by voluntary agreement in writing of some 20 or more members, railway companies doing business in territory south-west, and north-west of Chicago, June 9th, 1890, succeeding a similar organisation which in various forms had been in existence for a period of four or five years.

2. *Efficiency.*—During the 16 months' existence of the present association, the rates have at no time been demoralised, but have been nearly uniformly maintained on a reasonable basis.

3. *Permanency.*—The association has no corporate existence, membership being voluntary on the part of each company, and each member can withdraw from the association on 30 days' notice. Its permanency, therefore, depends upon its efficiency and its efficiency or enforcement is dependant upon the good faith of the members.

4. *Enforcement.*—Fines are imposed on members violating the provisions of the agreement and rules.

5. *Rates Generally.*—The fairly uniform maintenance of reasonable rates that will not be burdensome to the public, and at the same time, under careful management, will yield an adequate income to the owners of the railroad property, is the end sought to be attained by association work, care being taken to strictly observe and enforce the federal laws of the country and the laws of the several States in the territory of the association."

Without entering into details respecting any railway, and with due regard for his official position, Mr. Finlay gives a very comprehensive statement which possesses the merit of being lucid. The Chairman of the Western Traffic Association could not be expected to discuss; all he could do was to tate facts. In some respects, especially with regard to the Association itself and its relations to the railways it is not necessary to add anything to Mr. Finlay's remarks, its strong points being set forth in the above letter. But Associations, without exception, have their weak points as well, and these, probably, are more clearly realised by their members than by outsiders.

As has been emphasised in the statement given above the efficiency of Traffic Associations depends upon the good-will of their members. If, therefore, we wish to arrive at a definite conclusion respecting their value we shall have to inquire into the good faith of the railway companies of which they are composed. It seems that concerning the *bona fides* no very high opinion is entertained by some financial writers in America and England; at least one frequently meets with expressions of editorial opinion showing very little if any confidence in Associations. From this the inference must be drawn that people doubt the good faith of their members, for we have seen that upon such *bona fides* the success of Associations depends; and it cannot be denied that the weak points which we shall discuss presently in a measure justify want of confidence, while in addition our faith is shaken by constant rumours of dissensions, difficulties and dissolution; at the time of writing, for instance, the attitude to be assumed in May by Mr. Gould towards the Western Traffic Association causes grave apprehension. To furnish another example, when I was in Chicago in December, 1891, there were within one week rumours that the "Maple Leaf" was rebellious, that the Denver lines gave trouble, and that the Chicago and Grand Trunk was secretly cutting rates. Similar rumours, though mostly set afloat for speculative purposes, are not calculated to increase our confidence, especially since new ones always crop up before the truth of their predecessors can be inquired into. But with all that we cannot deny that Associations indicate a favourable change in railroad management. "Agreements of gentlemen" may be broken — so, for that matter are treaties and conventions between nations — and Associations dissolved, but in spite of that they must be welcomed as unmistakable signs of increasing harmony, of a growing desire among railways for peace and goodwill. There no longer prevails that universal disposition to cut regardless of cause or consequences, which at one time, say ten or fifteen years ago, was a feature of American Railways; but whenever difficulties arise it is first attempted to settle them peaceably, and even if this is impossible hostilities are rarely resorted to, as we are reminded of by the "Alton boycott," the reasons for which ten or twelve years ago would surely have led to a rate war, whereas now they did not disturb harmony to any appreciable extent. At the offices of these associations prominent railroad officials meet in a friendly spirit, discuss their business, and many difficulties are thus smoothed over. This mutual and general desire to discuss amicably and settle by friendly discussion that which formerly was attempted to be decided by hostile action is a very favourable sign indeed. It shows that the majority of railroad presidents are no longer reckless rascals, but men keenly conscious of their duties towards the public and towards their shareholders, that they now try to promote the interest of their employers with an eagerness as great as the recklessness which characterised the former destructive fights against the "cutter," the railway usually made the scapegoat upon which all the sins of its fellows were laden. I do not deny that some associations may have members lacking good faith. For instance, I am fairly positive that I reflect general opinion when I say that Gould's Missouri Pacific will break away from the Western Association as soon as it suits Gould's purposes.

But Mr. Gould is no longer a typical American railway president; the time when he was has passed away, never to return again.

We may, therefore, assume that lack of good faith among members of Associations does not exist in a degree which must doom them to failure. Nevertheless they possess defects or characteristics impairing their vitality and curtailing their powers. In the first place they lack legal authority; in the second place they possess the fatal weakness of pools which, with the aid of traffic appointments or blind pools, they are alleged to take the place of. The absence of legal authority deprives their rulings of absolute validity; with pools they share the great defect that adhesion of all is necessary to give strength, while dissension of one suffices to demolish the entire structure. This is the weak point of associations. But even in this respect the preponderating desire for harmony has wholesome results; it mitigates the effects of dissension and thwarts the designs of the evil-intended. There no longer prevails that disastrous disposition to meet cut with cut. If a dissenting railway feels disposed to make lower rates there no longer follows a general demoralisation, but the other railways quietly let it do so. It may get 5,000 or 10,000 carloads per annum more by reducing the rate a couple of dollars, but 5,000 or 10,000 cars are of little importance to the other railroads collectively, and for the sake of that small amount of traffic it would not be worth while reducing rates all round, because the prevention of loss of volume would not compensate for the loss in rates, while the cutter earns so much less that he rarely profits by his move; anyhow the harm he can do is limited by his carrying capacity.

It is curious to observe how rate wars as a rule are started by those roads which are least remunerative or responsible, and how discord among the members of Associations likewise usually originates with companies overburdened with water. The Chicago and Grand Trunk, Wabash, and Erie, for instance, are always to the front in the matter of cutting propensities. Good roads—the Alton, for example—are not. As regards this particular road, the fact that it is outside of the Associations has made it the bugbear of some writers. There is no reason for this. The Alton is a good, sound, responsible road, paying regular and high dividends, and such a one will never be found cutting. The Alton merely does openly what others do secretly. It lowers a rate without concealment as soon as it gets evidence that any of its rivals does so stealthily ; but it never works at a loss as long as it is not at war, and it never starts war itself. Its being outside of the association has neither hurt the members of that body, nor itself. But if one of the weaker roads had been in its place the result would have been far more disastrous to all concerned.

From the foregoing it appears that Traffic Associations, in spite of their defects, deserve the investor's approval. And if additional evidence of their wholesome influence were needed it could be found in the fact that rates never have been more stable than in recent years, since Associations have come into existence. The consummation of Associations and the stability of rates are no isolated co-incident facts. Their relation is that of cause and consequence. Associations are undeniably the outcome of a sincere desire to see reckless competition exterminated, and fair, reasonable, stable rates adopted and adhered to. They are the youngest, but not the least satisfactory form of consolidation; and it would be absurd to deny that everything which can promote consolidation should be hailed with satisfaction, not only as far as the shareholder is concerned, but also from the point of view of the public.

CHAPTER VI.

RATES.

No problem connected with railways is more important or intricate than the rate question. To railways rates are what taxes are to the Government or what his private income is to the individual; they are the principal source of revenue compared with which all other sources are trifling. To the public transportation charges are of equal importance. They form part of the price of every commodity, and because of their influence upon the cost of all necessities of life they are of the greatest possible importance to producer and consumer alike.

It goes without saying that the cost of transportation is a determining factor in the commercial and industrial life of every part of the globe; yet in the United States, where so many conditions are intensified, rates play a far more important role than in most other countries, perhaps I may say than anywhere else. Primarily this is due to the enormous distances, and secondly to the absence of great water routes in the principal direction of trade, from East to West and *vice versa*. The long distances separating the centres of production from the centres of consumption render low transportation charges an imperative necessity to Western agriculture; but at the same there are no water routes of any importance which, as they have done in so many other countries, could reduce and regulate the cost of transportation.

If we consider that owing to the "magnificent distances" separating the agricultural centres from the densely populated East and the seaboard the development of the country depended upon rates which in Europe would seem irreconcilable with the profitable working of a railway, it was very fortunate indeed that circumstances arose which gave the population of the United States the benefit of the lowest railway rates to be found on any continent. We must remember that the views which the public and the railways respectively take of rates are conflicting; to earn as much as practicable, to make the highest possible charge for its services, is the tendency of railways; to have the lowest possible rates is in the interest of the public; and since railways in the United States on the whole — and as a body — make their own rates, Americans may congratulate themselves upon the fact that conditions were given birth to which not only prevented the railways from making exorbitant charges, but which compelled them to reduce their rates to a level which astonished the world. The average rate in 1890 was $0.0093, considerably less than one halfpenny, while on some lines it does not exceed four-fifths of that humble coin; and to show what that means I will add that in Holland, where owing to the numerous canals and rivers rates are lower than anywhere else in Europe, an average of 0·76d. per ton-mile is charged, against 0·77d. in Belgium with the controlling influence of State railways, or 1½d. per ton-mile in England.[1] The results of such low rates are evident. Development became a fact where with higher rates it would have been an impossibility. The cheapness of transportation is responsible for the development of the grand agricultural region West of the Mississippi; to low rates Kansas, Missouri, Iowa, Nebraska, the two Dakotas and many other States directly owe that wonderful prosperity and marvellous growth which is without a parallel even in America. Agriculture in these regions would have been out of the question with a rate for grain averaging 3 cents per ton-mile as it did some twenty years ago, but with a reduction to an average of $^2/_3$c. ($^1/_3$d.) per ton-mile, equal to 16c. per bushel from Kansas City to New York, the grand and fertile region West of the Father of Streams rapidly rose to the rank of one of the most important grain-producing regions in the world, and revolutionised agriculture in most countries. This amazing increase in production has by the growth of traffic consequent thereupon in a measure compensated the railways for the decline in rates.

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[1] Jeans, *Railway Problem*, p., 320.

I said before that with regard to rates the interests of the railways are conflicting with those of the public, and the cause to which this fact must be assigned will be apparent to every one. Yet it may be useful to specify the respective wants of the public and the corporations.

Those whose duty it is to make tariffs have to consider two determining factors, two interests of a conflicting and antagonistic nature. They must make transportation charges which meet the requirements of the railway company, and at the same time those of the public.

The public requires low, equal and stable rates. They must place no obstacle in the way of trade and industries, and should promote the development of all regions; they must make no difference between individuals or localities by discriminations; and they may not disturb trade by fluctuations. To these three requirements, lowness, equality, and stability, some extremists add a fourth: it is said that rates should obliterate distance; but the unreasonable nature of this demand is so evident that we need pay no heed to it.[1]

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[1] Western farmers say rates should place the value of their land on a level with that in the East. In the East land is worth more, and for this there can be but one reason: it must yield more. It yields more because it lies nearer to the markets, and if this advantage disappeared on account of an obliteration of distance by low rates a farm on the Delaware would be worth no more than one on the Platte River. As a matter of fact the low rates caused a severe agricultural depression in all Eastern States. But if Grangers could reasonably ask railways to place them on a par with Easterners, *i.e.* to promote their special interest, Eastern peasants could demand the highest possible rates because these would suits theirs. From this it will be seen that the Western demand is not even debatable. The proposed equality would be gross injustice to some, and undue preference to others.

As far as railways are concerned, their interests are in but one respect analogous with those of the public: companies as well as their customers require rates which will promote development and increase traffic. But, whereas the public wants the lowest possible charges, the railways wish for such as will afford the best return upon capital, in other words the highest possible rates. At the same time tariffs which never vary will not suit them, for, owing to the fluctuations of business, charges must possess such elasticity as will compensate for smaller movements of freight, while also on account of other exigencies such as dearth of fuel or labour, floods, storms, blizzards, etc., they should be changeable to a degree which will at all times make business profitable and returns upon capital certain. With regard to this last point railways surely demand nothing unreasonable; rates rigidly fixed by Legislatures, leaving no scope for abnormal conditions, cannot possibly suit them. With regard to the other maxim, that relating to returns upon capital, it is otherwise, and the public has offered some objections because the phrase "an adequate return upon investment" is differently interpreted. Nobody denies the reasonability of claims regarding returns upon capital; but the questions arise whether a railway can expect good returns upon its capital if this is fictitious to a very great extent, and whether rates should provide for interest upon "water" or solely upon genuine investment. In other words, the railways would like to distribute dividends according to capitalisation, the public objects to pay returns otherwise than upon *bona fide* capital. To show which demand is just and which not I need but state that the Erie, to pay an adequate return upon its entire capital, would have to charge twice the rates of the Pennsylvania RR. Hence the claim of the railways should be modified so as to read upon the investment representing actual value of the property. To this, as a matter of fact, natural influences reduce rates. The road which works cheapest fixes the tariff, and this is usually a railway worth what it is capitalised at. At the same time this road as a rule is responsible and solvent, so that rates are prevented from falling below a point which admits of fair profits. This natural law seems to work everywhere. The Hudson Canal and Lackawanna fix coal rates, not the Reading; the Penna. and B. and O. trunk line rates, not the Erie; the Lake Shore central rates, the Burlington and Northwestern rates in the Northwest; and so we see everywhere that rates are such as will yield fair returns upon a moderate capital, and not upon stock which is inflated to an undue extent.

It is quite evident that adjustment of rates is the most delicate part of railway management. Briefly stated they should fulfil the following conditions: They must leave a fair profit to the railways, because they are the source of all earnings. They must not be too high, because their having a low level is of vital importance to numerous industries and to agriculture. They must possess stability, for fluctuating rates are injurious to trade because they introduce an element of uncertainty; and at the same time they should have an amount of elasticity which can compensate railroads for a smaller volume of business or for heavier working expenses. To make a tariff fulfil all these conditions is exceedingly difficult. Sometimes cutting reduces rates below the point where profits are possible. In times of depression industries and agriculture complain of their being too high. Stability is frequently impossible when reckless cutting and the desire to keep charges at a profitable point are struggling for supremacy.[1] Finally, it is evident that the same rate which with big crops and plenty of business results in good profits may be insufficient in a year with a smaller amount of business, with higher wages, or dearer fuel. That the difficulties encountered in fixing rates at exactly the proper point are numerous is therefore plain;

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[1] In 1884, for instance, the grain rate from Chicago to the seaboard fluctuated to the extent of 10c. per bushel within two months, and numerous failures at the New York Produce Exchange were the result.

and to what extent this is the case, may be judged from the fact that a decline of half a mill ($^1/_{20}$ of a cent) per ton-mile in the average annual rate means $800,000 per annum to the St. Paul, $900,000 to the Chicago and North-Western, $1,385,000 to the New York Central, $2,190,000 to the Penna. division of the Pennsylvania Railroad, $540,000 to the Lake Shore, and so on. Yet half a mill a ton per mile means less than $0.50 per ton from Chicago to the seaboard, or perhaps $10 per car. No doubt the difference per car seems less insignificant than one-twentieth of a cent per ton-mile, but still it is not much with an average tariff of about $105 per car between Western points and the seaboard. Let us now remember that the man who fixes rates has to do so for a dozen principal classes of freight, to be moved between hundreds of points, in the most varying quantities; that he has no certain element in his calculation, because he neither knows exactly how much freight he will move nor how much it will cost him to carry it; and, finally, that his rates must be such as to yield a certain profit, and we shall at once see how difficult a work the compilation of a tariff is.

I will illustrate the difficulty of fixing tariffs by taking an imaginary railway and its business. The X. Railroad Company has to pay fixed charges to the amount of $1,000,000 *per annum*, and can usually pay dividends to an equal amount. There will be $500,000 office expenses, and as much more must be paid for improvements, so that in all $3,000,000 must be earned. Last year the company moved 1,200,000,000 tons one mile at the average rate of 0·75 cent per ton. Working expenses amounted to 0·50 cent per ton, and in consequence the available net earnings reached the figure of $3,000,000, or exactly as much as was required to make the business pay. Now comes another year. Crops may be bad, and the movement of freight may not exceed 1,000,000,000 ton-miles, which would reduce net earnings by $500,000; or crops may be as good as before, but the price of fuel and labour rises, and there are a few accidents or floods, and working expenses rise from their former level of 0.50c. per ton to 0·55c.; again there is a reduction of net earnings, in this case amounting to a loss in revenue of $600,000. Or rates are cut down to the extent of nobody knows how much; but let us assume the cutting will reduce the average rate for the year by as little as half a mill per ton-mile; again a loss of $600,000. To all these emergencies the traffic manager must be equal. He must maintain the profits of the company at their average level as far as he can. If business is bad, or if expenses run high, he must make up for the loss as much as possible by putting up rates, and he often has to do so after the loss has been inflicted.

From all this the difficulty of adjusting freight tariffs is apparent, and it is increased because there is no clearly defined principle or theory according to which rates are fixed, no hard and fast rule. Rates, strange to say, are fixed somewhat arbitrarily, and by men who know little about them. A railroad tariff, as a rule, includes from 20,000 to 30,000 items, for there must be a rate for each class of freight from every point on the system to every other. The manager and higher officials, of course, cannot look after details, and the work must be performed by clerks, often under the influence of advice given by local agents, who are ignorant of the cost price of transportation and of the profits that have to be made and merely look at their commission, or may even act under the influence of a desire to benefit some local brewer or brickmaker, or may try to steal a march upon the local agents of rival lines. With all this it certainly is wonderful how rates are always more or less at the same profitable level, the more so because nearly all of them vary constantly. I have often asked local clerks about certain rates, for the sake of making an experiment, and I usually found they had to look at amendments, or amendments to amendments, or amendments in the third, fourth, and fifth generation before they could tell me what I wanted to know.

There being no rule which can be relied upon by those who make rates, it is no wonder that railways adopted the principle of charging what the freight would bear, in other words whatever they could get, always a safe method, which, however, is no longer universally adhered to. If excessive rates were charged the public would complain, and they could be reduced. But the practice had this disadvantage, that the public, especially our friends the Grangers, by the tangible results of their complaints, kept on complaining even if there was no ground to do so, and from the fact that rates were frequently reduced drew the conclusion that they could be lowered *ad infinitum*. Further, remunerative rates charged where traffic could and would bear them, caused competing lines to be built, and thus rates were reduced to their proper level by what may be called natural influences. Sometimes, however, they went below this point. A parallel line would be built for the sake of profits to be made out of construction, with no other object than starting reckless competition and compelling the older line to buy it out. Rates were lowered at once, first by competition, and when this competition abated, by harmony between the two lines or by amalgamation, it was found difficult to restore them again, because the competition of the new line had caused such an increase in the supply of transportation that this supply was greater than the demand, the natural consequence of which would be a lower rate. And at the same time the capital employed was increased by the cost of construction or by absorption of the new line, which required larger earnings to maintain returns on capital, and therefore higer rates. Thus the two elements determining rates, the supply of transportation in proportion to the demand, and the amount of revenue required as a return on capital, became conflicting, and the result in most cases was disastrous to capital. Moreover, the well-known law of Gresham, according to which the weaker currency will drive out the good one, was found also to apply to rates; bad rates drove out fair ones, and afterwards, even if the cause, cutting, was removed, nothing was found more difficult than re-establishing them. Now, competition has been at work everywhere, at least at all points of any importance; and the inevitable result has been that rates have gone down, and that the disproportion between supply and demand has been in its effect stronger than the requirements of the capital employed. This is the key to the rate question in America. If once low rates have been established, no matter to what these owe their origin, they somehow become a basis of business, and it is always found difficult, and often impossible, to restore them to their proper level.

As we have seen before, the guiding principle in the adjustment of rates thus far has been to charge as *much* as possible; but of late a new maxim has been adopted, namely, to charge as *little* as possible. The Norfolk and Western was the first to introduce this new and, it seems, more sensible version of "charging what the freight will bear." With the aid of phenomenally low rates this company succeeded in developing a great business in the Pocahontas Coal district which but for low tariffs never could have come into existence, and the result was that those who undertook the bold experiment were splendidly rewarded. It is my intention to speak more fully of the principles upon which the N. and W. conducts its business in the chapter dealing with that young and vigorous company, so that I need not enlarge upon them now. But the experiment has attracted an amazing amount of attention in railroad circles. I have scarcely met one traffic manager who did not come to this subject when discussing rates. It should not be forgotten that the N. and W. inaugurated it under very peculiar circumstances. Coals in a distant part were to be marketed, and an immense increase of business could be confidently expected if the experiment succeeded. But have not the low rates for grain caused an immense increase of the output, and has not the same been the case with lumber and coals? Without being recognised the principle was at work, until Mr. Kimball discovered it and brought it into prominence.

In spite of this the principle of charging what the freight will bear, adjusted by natural influences in practice, is no bad principle. It results in the railways getting the best rates they can under all circumstances. It is plain that a box of silk can bear a heavier freight than a basket containing cheap crockery, and that one ton of cotton piece goods, the highest class of freight, can be charged much more than a ton of soft coal. A difference of 1-10th of a cent per yard, which probably would mean about $40 a ton, makes no difference to the buyer or seller of a cotton dress. But 40c per ton of coals may mean everything to the mine-owner or to the manufacturer. Hence we find the rates for high classes of freight uniformly good, and as their volume does not amount to much there is little competition by water routes and not much cutting. But the staples are the pivot around which competition turns. Coal, iron, salt, grain, lumber, cotton, and cattle all cannot bear high rates. Yet the "low freights" are of the greatest importance to railroads, probably two-thirds of the total tonnage and at least one half of the freight revenue being derived from these classes of goods. To secure them, even at a small fractional profit, brings more revenue than would the monopoly of transportation of cotton piece goods, and hence cutting is usually confined to low freights. In the Schuylkill, Wyoming, and Lehigh Valleys, cuts are always on coals, in the West on grain, lumber, and cattle, in the South on cotton and lumber. As a rule they are made in the hope of securing business; sometimes they arise out of less commendable motives, say speculative intentions of managers, a desire to be bought out, or spite and "sheer cussedness." But wherever rates are cut once they rarely reach their former level again.

As regards the influence of water rates upon the tariffs of railways, comparatively speaking their bearing never was great, although in a few cases their influence has asserted itself; at present it is hardly perceptible. Railways constantly receive a greater percentage of traffic than water routes; and whereas twenty years ago they sometimes complained of the low rates on the rivers, lakes, and canals, it is now the navigator who complains of railroad competition. It is generally conceded that water rates are no longer a determining factor in the adjustment of American railroad tariffs, except perhaps in a few isolated cases, as for instance between the Atlantic and Pacific Coasts and in the Southern portion of the Mississippi Valley. Broadly speaking the American railway is now above the effects of water competition wherever it has had to contend against it.

In the report for 1891 of the Chicago, Milwaukee and St. Paul Railroad Company we find the following statement showing the decline of the average freight rate per ton-mile charged on that system for a number of years:—

	Cents.		*Cents.*		*Cents.*
1865	4.11	1874	2.38	1883	1.39
1866	3.76	1875	2.10	1884	1.29
1867	3.94	1876	2.04	1885	1.28
1868	3.49	1877	2.08	1886	1.17
1869	3.10	1878	1.80	1887	1.09
1870	2.82	1879	1.72	1888	1.006
1871	2.54	1880	2.70	1889	1.059
1872	2.43	1881	1.70	1890	0.995
1873	2.50	1882	1.48	1891	1.003

During the past twenty-six years there has, therefore, been a decline of 75 per cent. in the rates charged by the St. Paul railway, and on other railways they fell in about the same degree; on the New York Central, for instance, they were between 1870 and 1890 reduced from 1.88c. to 0·76c. per ton-mile. Passenger fares also show a decline, but as this is less pronounced than with freight rates, while, in addition, earnings from passengers are smaller and less important, we need not pay much attention to them.

It is quite evident that a serious *pro rata* reduction in the profits derived from transportation of a given volume of freight ensued, but on the whole it cannot be said that railways are much less remunerative now than they were before if we consider the enormous decline in rates. This is a result of two phenomena co-incident with the enormous reduction of tariffs, and largely compensating therefor. They are:—

1. A phenomenal growth of business.
2. A very considerable reduction of the cost of moving freights.

Growth of business has been peculiar to all lines, and of course is closely connected with the rapid development of the country. To what extent shipments have increased may be inferred from the fact that in 1870 the New York Central moved 769 million tons one mile, having in that year a total trackage of 1827 miles; in 1890, with 3795 miles of track, movements consisted of 2775·5 million ton-miles, and therefore the number of ton-miles carried for each mile of track rose from 422,000 to 731,000. This may be assumed to be typical of the increase of business on most American railways during the two decades ending in 1890.

More important than this increase, however, has been the reduction in the cost of transportation. I have it on the high authority of President Roberts of the Pennsylvania RR. that the cost of moving freights on that system during the last twenty years has been reduced from 0.98 cent per ton-mile to the phenomenally low figure of less than one farthing, namely to 0.4 cent, and on most lines operating expenditure was cut down in a similar proportion.

This reduction has been rendered possible by various improvements, of which the following are the most important:—

1. Economy effected by consolidation.
2. Increase of the power of locomotives and of the mileage run by every individual engine.

3. Increase of the capacity of cars, and decrease of dead weight in each train consequent thereupon.
4. Gradual substitution of steel rails for iron tracks and improvements of roadbeds by ballasting and grading.

Of the economy rendered possible by consolidation we have spoken before, and to technical improvements we intend to return hereafter. At present we have to consider the undisputed fact that all improvements combined afford no exact equivalent for the decline in rates, and that net earnings per mile of railway are lower now than formerly, although fortunately not in a degree corresponding to the fall in rates. Moreover it seems that charges have not yet reached their lowest level, for, especially in the West, competition is so intense that the supply of transportation usually exceeds the demand for it, as may be inferred from the rise in average rates characterising good years when all lines are kept busy, and a corresponding fall ensuing as soon as business is slack. But experience has shown that rate cutting is disastrous to all concerned. If done openly the demoralisation which is apt to follow inflicts severe loss upon all railways; if conducted in secret the "cutting" line, it is true, has more traffic, but its business is less profitable in proportion, and in consequence no appreciable gain results; and this being generally admitted and recognised there no longer prevails that mischievous disposition to cut regardless of consequences, but railways incline towards a mutual understanding aiming at a maintenance of rates. Evidence of this is afforded by the tendency to promote consolidation, and above all by the popularity of Traffic Associations.

In connection with the decline in earnings the investor will probally ask whether it will go on, and, if so, to what extent; and in addition he is likely to ponder over a possible remedy. As regards the question whether lower rates must be looked for I am not prepared to give a reply, in spite of my faith in the wholesome effects of consolidation in its various forms; I lack the intimate knowledge of freight business to justify my giving an opinion, and I find the views of all I have asked so widely divergent that I can deduct no general conclusion from them, although everybody is anxious to say that "rates can't go much lower." With regard to a remedy it is otherwise. It is not necessary to consider the question as far as it is connected with technicalities; but I must draw attention to some methods of doing business which earnestly call for speedy abolition because they reduce earnings to a very serious extent. Revenue of American railways is wasted because business with the public is conducted upon principles which cannot be designated otherwise than as utterly rotten.

The great evils eating into American railway business are: "scalping," agents, and, according to some, reckless advertising.

Concerning the latter I will not offer any criticism. No doubt much money is wasted in various ways by injudicious advertising, but this is an age of advertising, and perhaps it is not advisable to speak against it. Moreover, the waste, if it exists, is not of sufficient importance to render a long discussion of it necessary. But there are two other matters which call for speedy abolition. "Scalpers" and agents must be done away with. The former are a legion of ne'er-do-wells, euphemistically called ticket brokers; the latter a host of parasites feeding upon the life-blood of railways their revenue from freight.

Let us take the agents first. Their name implies what they do: they act as middlemen between the public and the railways. There are various kinds of them, such as travelling, district, soliciting, contracting, advertising agents, etc. The freight department is surrounded with a costly staff of men, occupying the most expensive offices. Of course, they were appointed in order to develop the business; but whether the mode adopted was a right one is very doubtful. One of the best passages in Mr. Stickney's book on the Railway Problem reads as follows: "No expense has been spared to equip them (the agents) with the latest and most expensive arms. The arts of the lithographer, the printer, the engraver on wood and steel have been exhausted; theatre tickets, credits at livery stables, and "et ceteras" have been supplied without stint and no questions asked. The expenses of these standing armies have been enormous, but like all standing armies they have been consumers and not producers. Their mission is to destroy. All of them together have not in twenty years produced one single ton of freight. Their only duty is to get freight which others have produced routed over their line, honestly if they can, but get it." In the main the Chairman of the Board of Directors of the "Maple Leaf" states this case correctly. Agents have constituted the armies required to fight the rate wars; but when peace was solemnly declared they were not disbanded, and consequently they continued to eat the fat of the land. It would be difficult to state exactly how much these agents cost the railways; but it is certainly a low estimate to say that many great systems spend $300,000 on agents who could not only be dispensed with, but whose speedy abolition would be a boon, not merely because it would result in a considerable saving of expenses, but also because these men are constantly nibbling at rates and writing to the main office for reductions. I will not join those who say they do this from dishonest motives, but they certainly do not know what rates suit the railroads; that the lowest possible tariff suits them is evident. The agents undeniably are responsible for the greater part of the rate wars and the gradual reduction of tariffs, because they are the outposts that start the battle. They steal a march upon other agents; the latter wax wroth and write to their general freight agent; the "G. F. A." makes reductions on a large scale, and the decline in rates has commenced.

Still more condemnable than the agent and advertising system is the scalper nuisance. A scalper is a man who sells tickets at lower rates than the railways. He is enabled to do so by buying the unused halves of return or excursion tickets, and by other less commendable practices. For instance, he buys mileage tickets and lets them out for single trips at a small profit. He purchases the free tickets for which railway employees frequently apply, not because they want to travel themselves, but merely "to supplement their incomes." He buys free passes if he can get them. He buys "advertising" tickets, with which the market is overcrowded, because most companies are foolish enough to stipulate that advertising in newspapers, etc., must be paid for "in transportation." He acquires used but unpunched tickets from the conductors. He forges signatures, stamps and dates, and with all this he does so splendid a "business" that he can maintain a very costly establishment next door the expensive railway offices in the leading thoroughfares, and underbid the railways. There are hundreds of these scalpers all over the Union, and all do a splendid trade. Upon what methods they conduct their business is set forth at length in the following extract from the official report of the Interstate Commerce Commission for 1889:—

TICKET BROKERAGE.

The subject of brokerage in railroad tickets, or "scalping" as it is usually termed, has to some extent been referred to in previous annual reports of the Commission, and has also been commented on more at large in special reports made upon investigations. The last annual report recommended specific legislation by Congress to restrain as far as possible this illegitimate and reprehensible business, now very generally regarded as one of the worst incidental evils connected with transportation.

A bill was introduced in both Houses of Congress at an early period in the last session, embodying the essential features recommended by the Commission. It failed to pass, and in fact is believed not to have been reported by the committees of either House.

It is understood that strenuous opposition was made to the passage of the bill by the ticket scalpers of the country. It is believed upon trustworthy information in possession of the Commission that railroad managers generally are in favor of efficient legislation for the overthrow of this evil, and that a strong public sentiment exists against its toleration.

With the great increase of railroads and the competition existing among them for patronage, ticket brokerage has become a large business and very profitable to those engaged in it. It is carried on with the greatest amount of boldness and success in the larger cities of the country where the most eager competition exists between railroads. A few illustrations will serve to show the extent to which the business has been carried.

From various reports received by the Commission it appears that in New York City there exist thirteen scalping offices, in which, including proprietors and clerks, about thirty persons are employed, at an estimated expense for office rent and clerk hire of $20,000 to $25,000 a year, and with an estimated annual profit from the business of $90,000 to $100,000; that at Chicago there are fifteen scalping offices, whose combined annual expense for rent and clerk hire amounts to about $70,000; that at Cincinnati there are nine scalping offices, with an annual expense for rent and clerk hire of about $20,000; and that at Kansas City there are seven scalping offices, with an estimated annual expense for rent and clerk hire of about $18,000. When it is considered that this business is carried on in nearly all the principal cities of the country, and that the net profits probably amount to four times the expenditure for carrying it on, it is evident that the profits from this illegitimate business exceed the sum of a million dollars annually.

The ticket broker has no necessary, useful, or legitimate function. He is a self-constituted middleman between the railroad and the passenger. All railroads have accessible and convenient offices and agents for the sale of tickets. The public can be fully accommodated by the regular agencies of the roads without the intervention of superfluous and obtrusive middlemen.

As there could be no field of operation for this class of persons if the railroad companies obtained full established rates for all transportation furnished by them, the expenses of the business and the profits made by those who conduct it must necessarily in the first instance come out of the carriers, and represent simply the discount suffered by them from their established fares and the resulting diminution of revenue. But indirectly this diminution of revenue is made up by the public, for while the business continues the carriers have it in mind in making their rates, and charge higher rates than would be necessary for fairly remunerative revenue if there were no such drain upon them to support the auxiliary force of scalpers.

The business is therefore hurtful both to the roads and to the public in a financial sense, and the extent of the injury it is scarcely possible to measure. The harm done by an army of unscrupulous depredators upon a legitimate business cannot be computed by any known standard. Lawless greed recognizes no limits, and weak compliance by its victims only stops at exhaustion. But the moral injury both to railroad officials and to the public is even greater. To railroad officials the business serves as an invitation and an excuse for dishonest practices. It is used as a cover, deceitful and transparent it is true, for evasions of law and for dishonorable violations of compacts among competing roads to maintain agreed schedules of rates. The public morals are affected by the natural inference that if railroad officials are deficient in sense of honor and integrity, and that if the railroad code of ethics permits one road to cheat another it is equally permissible for the public to cheat the railroads. The inevitable tendency of the practice, therefore, is to eliminate the moral element and the rule of action that element inculcates—business honor—from the practical field of transportation.

In whatever aspect ticket scalping may be viewed, it is fraudulent alike in its conception and in its operations. The competition of roads affords the opportunity for the work of the scalper. Without rival roads competing for business he could have no field. The prospect of selling more transportation at a discount than at the established rate, and so diverting business dishonestly from a competitor, is the temptation to a road to let a scalper do for it secretly what it does not dare do openly. The weak excuse of every road that transgresses in this manner is that some competitor does it. Fraud, therefore, is the incentive to the business. And in its conduct every step is one of actual fraud. The scalper's vocation, the necessity for his occupation, is to sell transportation at less than published and established rates; in other words, below lawful charges. Every such sale is a fraud upon the law, a fraud upon competing roads, and a fraud upon the stockholders and the creditors of the road for which the sale is made.

But bad as these transactions are, they are not the worst. There are other branches of the business which we are told by railroad officials are practised, to their actual knowledge, which are even more culpable. These are said to embrace such acts as dealing in tickets and passes that have been stolen, and tickets that have already been used but not defaced or cancelled by conductors as also in tickets fraudulently altered in respect to dates or extent of journey, and spurious tickets to which the use of some artful device gives the appearance of genuineness. In such cases an imposition is practised either on a railroad or upon a passenger, certainly upon the latter if the fraud be detected. Whether all or only some brokers engage in these fraudulent practices, or whether the frauds by which stolen, defunct, or altered tickets are palmed off on the public and on the railroads as well, are perpetrated by brokers themselves, or by others acting in collusion with them, are not material. The acts are incidents of the business, and arguments of great potency for legislative action to eradicate the evil.

One might suppose that a practice of this character could no more be defended than larceny or forgery, but strange as it may appear it is defended, before legislative bodies and elsewhere, and the right to carry it on unmolested is demanded. It is urged by way of defence that through the ticket scalper a portion of the public get lower rates and therefore his operations are in the interests of the public. The circumstance that lower rates so obtained are forbidden by the fundamental principle of the law, that equality of charges for equality of service shall be made, and that such rates are unjust discrimination, is wholly disregarded by this defence.

It is also said that railroad tickets are merchandise, and may be bought at wholesale at any price for which they can be procured, and may be sold at retail for any price the purchaser will pay. This, again, ignores the plain requirements of the law, that a railroad as a public agency must establish and publish its fares and charges, and sell its transportation only at its established rates, and that it is declared a criminal offence to do otherwise. The merchandise theory is an entire perversion of the nature and objects of railroad tickets. A railroad ticket, instead of being merchandise, is in law only a receipt or voucher for the payment of the cost of a journey, and evidence of a contract on the part of the railroad to carry the passenger. It imports that the lawful price of carriage has been paid, and that the holder is entitled to the extent and kind of transportation indicated by the instrument.

If it were practicable, fares might be paid on the train, but the use of tickets has been found a great convenience both to railroads and to passengers, especially to railroads in the economy of the time of train agents and as a protection against negligence or dishonesty on the part of such agents. If, in spite of the strong reasons from the railroad standpoint for the use of tickets, they are to be used clandestinely by the consent of railroads to violate the law and diminish earnings, it is questionable whether it is important, from the standpoint of the public, whether the scalping is done by professional scalpers or by the direct agents of the road.

Another defence of the business is put on the benevolent ground that passengers holding tickets for a considerable journey often change their minds, or are obliged by some happening to stop short of their destination, or to return without making the whole journey, and that by the charitable interposition of a broker the tickets are taken off their hands at no great loss, whereas otherwise the loss might be considerable. This overlooks the obvious fact that it is quite as convenient for a passenger to have his unused ticket redeemed at the office of a railroad upon which he is traveling as at the office of a broker, and that at a railroad office he can receive the full pro rata value of the unused part of his ticket without losing the broker's profit.

These are, in brief, the grounds upon which ticket brokerage is publicly defended, and which are urged to prevent legislation for the suppression of an acknowledged abuse of large and growing dimensions, seriously injurious in its character, bad in its influence, and owing its existence to the vices of human nature.

With the view of procuring a general and authentic expression from railway officials and others upon the subject of ticket brokerage, the Commission, early in June last, issued a circular calling pointed attention to the practice, and requesting answers to the following questions:—

First.—Whether the existence of this business is not a serious public evil.

Second.—Whether the profits of the business and the cost of transacting it do not necessarily either come from the revenues of the railroad companies, or tend to increase the charges which they impose upon passenger traffic, with a view to a sufficient revenue.

Third.—What are the chief causes which afford a field for the business and which are responsible for its existence.

Fourth.—If in your opinion the business should be brought to an end what remedy or remedies should you suggest for that purpose.

This circular was sent to the railroad commissioners of all the States in which such officers exist, and to sixty-five officials of leading roads, and to some others connected with transportation, many so addressed being men of national reputation and of high character and standing. Replies have been received from forty officials of railroads, from ten State commissions, and from some other sources. The circular and the substance of the replies are given in Appendix H.

The answers received furnish a body of testimony of the most convincing character. They are unanimous and emphatic in representing ticket scalping as a serious public evil. They declare it to be an unmixed evil in all its phases, detrimental alike to the public and to the railroads, and they agree that the evil is two-fold—in its effect upon the morals of the people and its effects upon the business interests of the roads.

Illustrations are given of fraudulent practices connected with the scalper's occupation, some of which have already been indicated. There is scarcely a limit to the variety and boldness of the operations by which their thrift is nourished. One general passenger agent writes as follows:—

> They (meaning the scalpers) feed on the weaknesses of railroad human nature and the dishonesty of all classes and conditions of society, who have anything in the shape of railroad transportation to dispose of, whether secured by honest or dishonest means, and then they do not hesitate to change dates and limits and signatures until corruption is stamped all over them.

Another agent writes:—

> The crooked work in connection with the alteration in tickets and the handling of forged tickets is liable to result in serious injury to the public. I feel sure that such practices would not prevail were the ticket brokerage business brought to an end by the enactment of a national law.

In answer to the second inquiry one general passenger agent writes that—

> The profit of scalping and the cost of transacting the business necessarily come from the revenues of the railroad company, and this fact has a tendency to increase the charges necessary to yield a sufficient revenue.

Another writes:—

The profits of the business and the cost of transacting it do come from the revenues of the railroad companies, and necessarily increase the charges which they impose upon their passenger traffic.

Still another, a joint agent of several lines of road, writes:—

The maintaining of scalping offices does greatly impair railroad revenues and tends to increase local rates.

Another, who occupies a position affording the best opportunity for observation, writes:—

The profits of the business and the cost of transacting it come apparently from the revenues of the transportation companies, but really from the traveling public by reason of the increased rates that the transportation companies are compelled to charge to protect their revenues against the scalper. * * * If it were not for such losses the transportation companies could well afford to make lower rates to the traveling public.

Others write to the same effect.

As an example of the bad results of dealing with brokers a general passenger agent of one of the principal railroad systems of the country asserts that passengers often dispose of the unused portion of their tickets to brokers for less money than they would receive from the railroad company if presented to the company for redemption.

The third inquiry in the circular, relating to the chief causes which afford a field for the business, and which are responsible for its existence, was fully answered by the communications received. Both the public and the railroads, it is said, have a share in the responsibility. The too general desire on the part of the public to get goods or service at less than established prices, and the avidity of nearly every railroad to do a greater amount of passenger business than any competitor, are said to be among the primary causes. Other and immediate causes, however, are specifically set forth. These are as follows:—

First.—The business is largely sustained by the direct encouragement and co-operation of railroad companies themselves, in the payment of commissions to scalpers, in placing with them blocks of tickets in times of rate wars, and in frequently turning over to them the return portions of round-trip tickets. The absence of good faith between rival companies opens a door for the employment of the broker. At the outbreak of a cut in rates agreements to maintain schedule rates are ignored, the services of the broker are invoked, and he is supplied with tickets at greatly reduced rates, or is paid heavy commissions which may be, and are expected to be, divided with the passenger.

Second.—Excursion, tourist, and mileage tickets are all factors, and important ones, in the maintenance of the scalping business. The first two are often purchased by a class of travelers who do not contemplate their use except for one way. After being so used the return portion of the ticket is sold to a broker, who in turn sells to some traveler, and the difference in rate between a round-trip ticket and one good in only a single direction is divided between the broker and the passenger, the former getting the larger share. The mileage ticket, which many roads do not attempt to confine to the original purchaser, is also largely utilized by brokers, and rented out by piecemeal to travelers.

Third.—Dishonest employés of railroads contribute in no small degree to keeping up the business of furnishing the scalpers with tickets which have been used but not canceled; and stolen and counterfeit tickets also furnish their contribution to the stock of the broker.

Fourth.—Tickets given by railroad companies for advertising in newspapers, and to men in business, such as hotel keepers and others, as well as passes, are made merchandise of and converted into money, the broker being the medium through which they get into the possession of persons who have no right to their use and who often find it necessary to make misrepresentations to avoid the consequences of detection.

The final inquiry, whether the business should be brought to an end, and the means to be employed for the purpose, receives an emphatic answer. The leading railroad officials of this country are a unit in the recommendation of a national law for the suppression of the business, embodying the general features of the Canadian statute. Several of the State legislatures have enacted laws of a similar character, but in the absence of a national statute they cannot be made as effective as they would be with a national statute on the subject.

It is stated by a Canadian railroad official that there is not a ticket scalping office in Canada. This tends to show the effectiveness of a general law, and renders it probable that like results might follow from such a law in the United States. The Canadian statute, in substance, forbids the sale of tickets by anyone except a railway station agent or the regularly appointed agent of a legitimate transportation company, and fixes full responsibility upon the company whose ticket he sells for his acts, and puts it in the power of any person to make complaint and prosecute for violation of the law. The law also provides that all unused tickets or portions of tickets shall be redeemed by the issuing company. This takes away any excuse on the part of the public for dealing with outsiders."

As a means of further illustrating the extent of "scalping" I quote the following from the Chicago *Evening Journal* of Saturday, March 26th., 1892 :—

"Five men en route recently from Chicago to New York on one of the trunk lines were sitting in the smoking room of their sleeper, when the conductor passed through taking up tickets. The first, as his uniformed highness approached, exhibited a pass. The conductor punched it, smiled blandly, and passed on to the next. After the conductor had disappeared the portly member of the party said to the man with a pass: "You are certainly in great luck to be able to travel so cheaply. I had to put up $22 for my passage."

"Then you were a chump," quietly observed the third gentleman. "I got a ticket for $20."

"So are you a chump," chimed in the fourth, "for I am out only $19 for this piece of paper, and it gives me the same accommodations you and your fat friend have."

The fifth man had been keeping very quiet, but it was now his turn to speak. "I can give you all three the laugh," said he. "I secured my ticket for $18."

Then they compared notes and discovered that all of them had patronized the same agent, who sells tickets on his own account over all roads centering in Chicago, and seems to be in a position to put any kind of a price on them, below the regular tariff, that suits him.

This is an illustration of the way rates are maintained."

All methods enumerated before however, are neither as bad nor as ridiculous as the custom of paying commission to scalpers for business introduced by them. When I was in California I had to go to Chicago and back; asking the hotel clerk for the nearest ticket office that useful person told me not to go to the office but to a "scalper" and to ask him for a "straight ticket." The scalper went with me to the office and introduced me. I paid the usual price for my ticket, but the scalper later on paid me $12.50 back, and thus I bought the self-same ticket which the company would have charged me $75 for if I had gone to their office direct, for one-sixth less, while the scalper also got a commission!

From the preceding pages it is evident that scalping reduces earnings to a very material extent. The Interstate report estimates the profits of scalpers at $1,000,000; but there can be no doubt that this estimate is much too low; the profits of all scalpers in the Union presumably exceed $4,000,000 per annum, and probably passenger earnings of all railways are reduced by scalping to the extent of fully $8,000,000, if not more; with total gross earnings from passengers on the entire railway system of the United States amounting to $273,600,000, this represents about three per cent; but as the savings effected by the abolition of scalping practically would be *net* profits, it may be said that an amount equal to eight per cent. of net passenger earnings is now wasted on account of ticket brokerage. At least an equal amount continues to be thrown away by the liberal distribution of free passes, and thus *the railways could probably make $16,000,000 a year more out of passenger traffic if they wanted to.* But the trouble is that they do not want to, especially the less prominent companies. This class of railroads, as a matter of fact, is responsible for the entire nuisance. It is the bad, not the good lines, which encourage the brokers, because it is only by the aid of scalpers that passenger traffic is not altogether diverted from them to the better lines; and this being so the latter cannot offer a very strong opposition if they wish to maintain harmony. As to free passes, these are given freely by the weaker lines to secure the patronage of shippers, while the better lines do not issue many, and, for the sake of peace, let their inferior rivals do as they please, by way of concession. Good lines are anxious to abolish both scalping and free passes; but they cannot do it as long as the bad ones adhere to these practices. The only remedy for this evil is an Act forbidding outside brokerage. One was drafted only a few years ago, but it could not be carried. In Canada scalping is forbidden by law, and now is unknown there. But as long as the railroads themselves favour the pernicious practice no Act will be passed in the United States. Yet it would be of immense benefit to the railways. Another provocation to cutting would disappear and the passenger traffic would be much more profitable. Interdiction of scalping would easily raise the revenue of some of the more important systems by $300,000 per annum net, and I have no hesitation in saying that many a line could save an amount equal to a full dividend on its shares if it would abolish the agent and scalping systems and be less liberal with its free passes.

The possibility of considerable savings renders the question of great importance to investors; but the investor cannot do much more than protest, and a powerful agitation is required to stop it. The American public, however, does not appear to see that scalping is not to its advantage, and the press, being in this respect a partner of the railroads inasmuch as every newspaper gets "ads," for which it is paid in "transportation" which it has to dispose of through the medium of scalpers, certainly will not agitate, because it too has an interest in maintaining scalpers, and thus "brokerage" will prevail until the railways themselves put a stop to it. That this will soon happen seems exceedingly unlikely, because it cannot be done otherwise than by concerted action. One isolated road lacks the power to do anything in the matter, and hence it is of little consequence that the better class of companies is in favour of the speedy abolition of scalping.

Before concluding this chapter I must call attention to another matter. Some people, among them Mr. A. B. Stickney, Chairman of the Chicago, St. Paul and Kansas City RR., and author of *The Railroad Problem* (St. Paul) wish to see the expensive offices done away with. In the very first pages of this work I called attention to the gorgeous and expensive offices maintained in Broadway, New York, by all railway companies. These offices occupy the very best and most expensive corners, and what holds good of New York also applies to other cities. In Boston we can see them along State and Washington-street; in Philadelphia they occupy the best corners of Chestnut and Tenth-street; in Chicago they can be found near the Post Office, where rents are highest, most of them being situated along Clark-street; and so it is everywhere. They are fitted up splendidly, and must cost vast sums. Large amounts are also spent in "folders," illustrated books of the most gorgeous description, and numerous other advertising devices. Perhaps some of these expensive advertisements are superfluous, as for instance, a costly and almost useless Christmas Annual for children issued by the Rock Island. But in the main it seems injudicious to disapprove of advertising; it pays if properly conducted, and cannot be discontinued if once started. Therefore the crusade against advertising does not deserve much attention.

From the foregoing it is evident that the methods according to which American railways do business are open to grave objections, and infested with objectionable and even criminal practices. It is evident, too, that these methods can be abolished; an adoption of European customs would effectually put a stop to all of them. It would improve earnings and credit of every single company, and materially assist in placing many a corporation on a sounder basis.

CHAPTER VII.

SOME TECHNICALITIES.

It may be useful to include in the present work a brief description of the most prominent technical characteristics of American railways, and a few cursory remarks concerning the transportation of freight and passengers in the United States. Perhaps the reader takes no very keen interest in the average length of lead,[1] in the weight of rails, or in the capacity of cars; but since such matters explain many others in which the investor is more directly concerned, the author feels that he may not pass them over in silence.

The first peculiarity which attracts our attention is the use of words and terms different to those used at home. In America we do not book, but "buy a ticket"; people depart from and arrive at a "depot" (except "tramps," who in America desire free rides on railways and whom the conductor frequently puts off somewhere in the wilderness;) You "check" your "baggage," and it is deposited in the "baggage car." The "locomotive" pulls the train along the "road," and you must speak of "freight" and not of goods trains, while it is advisable to substitute "haul" for lead and "conductor" for guard. There are several other terms differing from ours, and judging from "railroad" parlance the time is not far off when people will ask you whether you "speak the United States language."

The next quaint circumstance which strikes the stranger is the peculiar way of buying tickets. There is but one class in democratic America, yet it would be erroneous to suppose that there is but one kind of ticket; there are more varieties than in any other country, more even than in Germany with its four classes; and we can not only buy a ticket at the offices, agencies, or stations of the various companies, but they may generally be had at reduced prices at the offices of "scalpers," either "straight" or otherwise. To Europeans it no doubt sounds strange that any one other than an appointed agent of a railway company should sell tickets; in America it is of every-day occurrence, and except in Pennsylvania the practice is lawful in every State of the Union, and as we have seen in a preceding chapter, it prevails at all important points.

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[1] As the word "lead," however well known in railway circles, is not mentioned in several "popular" dictionaries, it may be useful to mention that it means the distance over which goods are carried.

After having purchased a ticket[1] and entered a train, we observe that the carriages differ materially from those used in Europe. Instead of into compartments the train is divided only into cars, and these usually communicate with each other over the buffers, while in many cases a train is "vestibuled," and practically forms one compartment. Egress and ingress are made at the ends of each car, and in local trains the first car is usually a "smoker," while no such things as ladies' compartments exist. Passengers can walk throughout the train, there being a central aisle in each car on either side of which there is a row of seats for two persons. Carriages are considerably higher than in Europe and have larger windows; they contain as a rule from 24 to 30 seats each of which accommodates two persons, but in the West, where competition is strongest, "reclining chair cars" are generally introduced, these carriages being provided with a separate chair for each passenger which can be placed in a semi-horizontal position in order to increase comfort. Nearly all cars contain a lavatory, a filter, and during the winter a stove. The latter is often the cause of the serious character of railway disasters in the United States; they set fire to the wrecks, which again are of a graver nature than in England because the peculiar construction of the cars renders them liable to "telescoping." Steam heating is, however, rapidly coming into general use, while gas and electric light gradually replaces oil lamps.

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[1] Tickets are often twenty inches long and usually three inches broad. As a rule they are printed on safety-paper, to prevent forgeries.

To prevent telescoping, fast trains are "vestibuled," and it is especially in these "expresses" that we can enjoy that unique comfort for which railway travel in the United States is noted, and which is a necessity in a country with a population accustomed to long journeys and devoted to luxury and comfort. These trains by far surpass everything of the kind in Europe. Running between all principal cities in the United States, Canada, and Mexico they have rendered railway travel pleasant instead of monotonous, and recreative instead of tiresome; in every respect equal to the best appointed hotels, they surround us with the most appreciated comforts of life; and to these is often added the fascination of a rapid change of surroundings and scenery.

The finest trains in the United States run on the Trunk Lines between the West and the Seaboard, the Chicago Limited Express of the Pennsylvania and the Limited Trains of the Vanderbilt Lines being the best appointed expresses in the country. They have easy chairs instead of fixed seats, contain an excellent library with periodicals and newspapers, a bar, smoking, toilet, and even bath rooms, and a barber's shop; and a spacious dining car where excellent meals are served at the low price of one dollar.[1] One can smoke and read, write letters and telegrams, walk and talk at pleasure, and thus the journey between Chicago and New York, lasting 24 hours, passes by as pleasantly as a day spent in the country.

Not all companies, however, run such splendid trains, and notably not such fast ones; but on all main lines the service is excellent, especially between the principal cities of the West. The result is that travelling is more readily indulged in than at home, and thus the companies are compensated for the great expenses connected with an excellent service. Yet I do not think it can be said that the compensation is full, nor can it be alleged that the railways keep up such an excellent service *pro bono publico*; when perfecting trains and accelerating speed, the companies are usually prompted by competition, and the result is that, whereas accommodation and meals constantly improve while their price has a tendency to decline, many companies complain of the increasing cost of service "owing to the fastidiousness of the public"; but the true reason lies in their own efforts to excel all competitors.

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[1] West of Chicago and St. Louis the price of meals is only $0.75. Railways lose over their dining car service, but excellent meals are provided because they advertise the line. The tables are usually adorned with flowers and the menus printed.

But few railways have their own passenger cars of the better type, and most of them use those supplied by the Pullman Palace Car Company, a corporation with a capital of $30,000,000 which pays a regular dividend of eight per cent. per annum, and owns the entire city of Pullman, a prosperous suburb of Chicago, where the great works are situated. This company charges passengers at the rate of about four dollars a day for the use of its cars and receives a fixed sum from the railway companies for each mile run. It has been frequently said that railways ought to have their own sleeping and dining cars, because this would result not only in savings but also in increased earnings; and there seems to be a growing tendency to effect a change in this direction, the Chicago, Milwaukee and St. Paul having had its own "Pullman" service since 1890, while the Vanderbilt lines for a considerable number of years have used cars of the Wagner Palace Car Company of Buffalo, which is controlled by the Vanderbilts. No doubt Pullman cars would be more generally owned if it were easy to change the old method, but there are various obstacles. In the first place a set of cars is expensive, and would require a large outlay; in the second place Pullman's Company is convenient because it can adjust the number of cars in use on the lines of a given railway according to requirements. In busy times and on special occasions it is ready to supply any number at short notice, and in dull times it can take off cars, so that no company need keep unemployed rolling stock and all can cope with extra requirements. Yet on the whole it seems as if the leading companies will gradually acquire their own "sleepers," "parlour cars," etc.

The speed of trains in America averages lower than in England, but in this respect also a rapid improvement is perceptible. On the whole the American train goes slowly, especially in the West, where a speed of 35 miles per hour is rarely attained even by expresses; but nevertheless the fastest trains in the world are run in the United States. The 13 quickest trains running daily in England have an average speed of 50·8 miles an hour, ranging from 43·75 miles on the South Eastern Railway, to 55·5 miles on the Manchester, Sheffield, & Lincolnshire Railway

In the same year the speed of 10 trains running in the United States between various points ranged from an average of 51·7 miles per hour on the Philadelphia, Harrisburg & Pittsburg RR. to 90 miles on the Philadelphia & Reading, these being not regular trains but "full weight specials."[1]

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[1] It may be interesting to compare the speed of the fastest trains in both countries. *Barker's Facts and Figures for 1892* gives the following statement relating to English trains (p. 296).

Company.	*Train.*	*From.*	*To.*	*Time.*		*Distance.*	*Speed.*
				H.	M.	Miles.	Miles perhour
Midland.............	10.30	St. Pancras...	Leicester...	1	55	99¼	51·78
Great Eastern.......	4 30	Gainsboro'...	Doncaster .	0	25	21	50·4
London & N. Western.	10.0	Rugby...	Crewe. ...	....		75½	53·125
Cheshire Lines.	. .	Manchester. .	Warrington	0	18	16	53 33
Great Western.......	1.18	Swindon.....	Paddington.	1	27	77¼	53·25
London & Brighton..	5.0	London Bdge.	Brighton...	1	5	50¾	46·75
Man. Shef. & Linc..	4.15	Grantham....	Retford.....	0	36	33¼	55·5
South Eastern.......	3.15	Charing Cross	Dover......	1	45	76⅝	43·75
Glas. & South Western	...	Glasgow	Androssan..	0	28	24⅛	51·78
Chatham & Dover....	3 25	Herne Hill ..	Dover. ...	1	45	78	44·57
Lon. & South Western	2.55	Southampon.	Vauxhall ..	1	32	77¾	50·75
Great Northern......	9.45	Grantham....	Doncaster.	0	56	50¾	54·33
North Eastern......	2 0	York .. .	Berwick. ..	2	33	147¼	51·15

As regards regular trains on long journeys, the distance between Edinburgh and London, 400½ miles, is covered in 8 hours and 30 minutes, an average of 51·6 miles per hour. In America, however, a faster service over long distances has been inaugurated. Some expresses between New York, Philadelphia, and Washington run at an average rate of 58 miles an hour, and on that excellent railway, the New York Central (the only four track railway in the world) the "Empire State Express" now runs daily from New York to Buffalo, a distance of 436½ miles at an average speed of 52$^{1}/_{3}$ miles an hour, a rate unexcelled by any other long-distance run on any other railway in the world. Yet this is not the best American record. On

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The Tribune Almanac (New-York) for 1892 (p. 178) gives the subjoined table:—

Date.	*Road.*	*Run.*	*Distance.*	*Time in mins. and secs.*	*Average miles an hour.*
1891.			miles	m. s.	
Aug. 27	Phil. & Reading...	Jenkintown to Langhorne.	12	8 ¾	82 2
		Near Langhorne..........	1	39$^{4}/_{5}$	90
Sept. 14	N. Y. C. & H. R....	New-York to East Buffalo.	436·5	440	55·5
		New-York to Albany.....	143	140	61·1
		Albany to Syracuse...	148	146	61·4
		Syracuse to East Buffalo..	150	148	61·2
Oct. —	Chic. & Northw'n.	Council Bluffs to Chicago.	484	495	50
		La Fox to Geneva.... ..	510	4	76 95
Oct. —	Phil., H. & Pitts.	Gettysburg to Harrisburg.	51 4	—	51·7
		Rossmore to Harrisburg...	5·4	5	64·7
Oct. 4	Balt. & Ohio......	Baltimore to Philadelphia.	92	92	60
		Canton to Newark........	54·4	56	58
		Newark to Philadelphia..	37 2	36	62
Oct. 25	Kan. C. & C. B.	St. Joseph to Pacific Junct	111	118	63·8
		Forbes to Nodaway...	6 1	4 15	88·2
Oct. 26	N. Y., L. E. & W.	Buffalo to Jersey City.....	422	551	46
Oct. 27	N. Y. C. & H. R.	New-York to Buffalo.... .	440	*501	*52·8
		Looneyville to Grimesville	1	0 52	71
Nov. 1	Michigan Central..	Chicago to Detroit...	246	359	48
		Niles to Kalamazoo..... ..	48	53	54
Nov. 28	Pennsylvania.... .	Jersey City to Washington	228·5	25 1	54·62

* Exclusive of stops.

It will be observed that the American records were not made by regular trains; some details concerning these are given above.

September 14, 1891, a New York Central train weighing 230 short tons (460,000lbs.) was made up in New York, and performed the journey to Buffalo, 436½ miles in 439½ minutes including stops, or 425 minutes 44 seconds actual running time. The London *Times* of September 16th says: "The New York Central has beaten all records for fast time on long runs of passenger trains on both sides of the Atlantic," and as a marvellous performance without parallel the feat has been generally recognised. But as English engineers rarely concede to American railways any superiority, it may be useful to quote the following, which the *Railway Press* of London printed in June, 1891, on another occasion:—

"Were it an account of a run from London to Aberdeen, its teaching would be accepted without question; because it refers to an American Railway, as good or better than any in this country, we presume our giving publicity to it will excite the wrath of those who are ever exclaiming "Can any good thing in the way of speed come out of America?" This distrust of American records is, in our opinion, very foolish and quite unwarranted..... All the raving in the world will not disguise the fact that while we are standing still, America is advancing with giant steps, and if she continues to gain on us at the present rate will soon be ahead."

Yet this is by no means the fastest speed attained in the United States. A special train on the Philadelphia and Reading RR. has covered one mile in $39^4/_5$ seconds, at least if reliance may be placed on the following extract from the *Chicago Mail* of September 19th, 1891:—

"A mile in $39^4/_5$ seconds, or at the rate of over ninety miles per hour, is the fastest run ever made by a railroad train, says the *Philadelphia Record*. This unparalleled feat was accomplished yesterday on the Bound Brook railroad, between Neshanduy Falls and Langhorne, by engine No. 206 drawing two ordinary coaches and President McLeod's private car "Reading," which is equal to two coaches in weight. Other miles were reeled off with speed as astonishing as this crack mile, and at the end of the "fly" the world's record was broken. From this day all records must date from the memorable Bound Brook flight. The fastest mile was scored in $39^{4}/_{5}$ seconds; the fastest five miles in 3 minutes $26^{4}/_{5}$ seconds; the fastest ten miles in 7 minutes and 12 seconds, averaging 43 seconds per mile."

This run was made over the finest piece of track in the country, smooth and level, provided with 90lb. steel rails and stone ballast. It belongs to the Philadelphia and Reading Company, whose trains between Philadelphia and New York have made various records which have no parallel at all in England.

In spite of these unsurpassed feats the average American train runs slower than the English. One of the fastest Western trains, the "Number One" Express on the Burlington Route, running from Chicago to Denver, requires 30 hours to perform the journey of 1,030 miles, and its average speed therefore does not exceed 35 miles an hour. But the majority of trains are much slower, expresses rarely covering more than 30 miles an hour West of the Mississippi, while East of that river their speed seldom exceeds 35 milles. On many lines there are but one or two trains a day, and in the West time schedules are never adhered to, trains being frequently a few hours late. I once went over a branch line of a leading Western system with one of its superintendents, and as we should arrive at the junction two hours after the only daily train West had left, my courteous companion telegraphed to the station master at the junction to stop the train until we arrived; when we came the train was — not there yet, nor did it come within the next five hours. On several occasions I experienced long delays when travelling in the Far West on account of slight mishaps, and in such cases the good humoured passengers would leave the train and improvisate base ball clubs or "pull their guns" and go shooting jack-rabbits. In some cases there are even delays of days. I once spent three happy days in an Atchison train at Raton, N.M., on account of snowfall, and not less than seven daily transcontinental trains congregated in that interesting city before the line was cleared.

On the whole passenger traffic is neither as important nor as profitable to railways in the United States as in England. In the first place the average rate per passenger is lower in the United States than in England; (1) in the second place there are less passengers per train-mile, although the average distance covered by each is greater. (2) Whereas in England about 7,000,000,000 (3) passenger miles were covered in 1890, the mileage in the United States was 12,521,000,000, or less than twice as much with more than five times the extent of mileage; in other words for every mile of single track in the United Kingdom about 240,000 passengers are carried one mile while in the Republic the number amounts to but 73,560. If we consider the rates prevailing in both countries we find that in England about $5,600.00 per mile of railway is earned from passenger traffic against but $1,575.00 in the States, a fact not only connected with the greater density of population and the large amount of suburban travel, but also with the better rates prevailing in England. These figures I do not claim to be absolutely exact, but they are fairly accurate and strikingly show the difference between passenger traffic as a source of revenue in the United States and in England. There can be no doubt that whereas this branch of the business pays well here it does not in the United States,

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[1] The average rate per passenger per mile in England is estimated by competent authorities at 1⅛d. or $0.0233. In the United States it is $0.0218. (See Dorsey, *Amer. and English RR.*, tab. 24, and *Poor's Manual*, 1891, p. viii.)

[2] In 1890 this average distance in the United States was, according to Mr. Poor, 24·06 miles; Mr. Dorsey states that in England, it was 7·2 miles in 1886, and since then it has probably decreased a little.

[3] In 1886, Mr. Dorsey states, the total mileage covered by 683,000,000 passengers was 5,900,000,000 miles. For the 775,000,000 passengers of 1890 this would give a total of approximately 7,000 millions, after making allowance for the small decrease in mileage per passenger witnessed from year to year.

and in all probability it will not do so until the density of the population has considerably increased, although the abolition of free passes and of "scalping" may improve matters to an appreciable extent.

To state exactly in what degree passenger traffic in England is profitable would be impossible, but from inquiries among competent authorities I am inclined to believe that in this country at least 40 per cent. of gross passenger earnings is net revenue. In the United States profits are considerable below that percentage. The New York Central and the Pennsylvania, the two passenger routes *par excellence*, have average rates of 1.90c. and 2.07c. per passenger mile respectively, and net earnings of 0.43c. and 0.57c.; but as the Pennsylvania must be regarded as the more representative line it will be safest to consider the figures relating to the latter as an indication of the proportion of profits to receipts, in which case they would amount to 22 per cent. For the whole of the United States we have no reliable data, but as the New York Central is acknowledged to carry on its passenger business under exceptionally favourable conditions while at the same time passenger business is generally conceded to yield small profits on other lines, the estimate that 20 per cent. of passenger earnings in the United States is profit is certainly too high. But even if we accept this figure as correct we arrive at the conclusion that, whereas a mile of English railway results in about $2,240 profit per annum from passenger traffic, a mile in America yields but $315. This shows the difference between the importance of this class of business in the two countries.

But passenger traffic in America is by no means as important a part of railway business as in England. In the latter country the proportion of earnings from freight to those from passengers is as nearly as possible 5: 4

in the United States it is about 10: 4, [1] hence receipts from freights are in proportion twice as important as in England. Those who are at all acquainted with American railways will require no figures to be convinced of the correctness of this statement. There are in the United States many important railways which earn four times as much from the transportation of freights as from passengers, the N. Y., Lake Erie and Western being an instance; this railway earned in 1890/91 $5,569,000 from passengers against $22,373,000 from freight. Numerous railways, especially in the West and South, are in a position akin to that of the Erie, and it is by no means venturesome to say that freight business is the pivot around which railroad business in the United States turns. If additional evidence were needed it could be found in the fact that in 1890 all railways had 22,258 passenger carriages against 1,061,000 freight cars.

The reasons for the preponderance of freight over passenger business have already been hinted at in the first chapter. There is an enormous production of raw material, and most of it has to be carried over tremendous distances; as a rule hundreds of miles separate the region of production from the place of consumption, and railways are almost the only means of transportation; and as a result a traffic develops itself which may be truly said to surpass that of any European country. The South produced last year 2,892,000,000lbs. of cotton, huge shipments of the fibre being transported by rail to the ports for exportation, while formidable quantities were sent to New England to be spun, woven and dyed, to leave the region of the true Yankee for all

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[1] In 1890 the Railways of the United Kingdom and of the United States earned respectively:—

	U. K.	U. S.
From passengers.......	£34,328,000	$273,064,000
From freight...........	43,220,000	740,375,000
Miscellaneous..........	3,400,000	72,000,000
Totals.....	£79,948,000	$1,086,039,000

other parts of the Union in the shape of "cotton piece goods." In 1891, 1,990,000,000 bushels of corn, 585,000,000 bushels of wheat and millions of bushels of other cereals, in all 3,395,000,000 bushels, representing a value of $1,500,000,000[1] were produced, and an overwhelming proportion of this vast quantity, representing at the very least five million car loads of grain—and American car loads of at least 40,000lbs. each—has to be transported either to the seaboard or to other parts of the country. Coal from Pennsylvania, Virginia, Alabama and Illinois has to be carried hundreds of miles; textiles and machinery are sent from the Eastern States to all Western points, and in return the West sends its cattle and its corn. Fruit from Florida and California goes North and East to meet the timber brought from the woods of Wisconsin and Minnesota, and the ores from Colorado and Montana. And apart from corn and cattle, timber and textiles, coal and cotton, fruit and flowers there is a constant exchange of all kinds of other produce of mine and mill, forest and farm, between producers and consumers separated by distances which may be expressed in miles, but which we cannot comprehend until we have travelled throughout the length and breadth of "the country of magnificent distances."

We have spoken elsewhere of the decline in freight rates, and said that in a measure it was compensated for by a growth of business. To show how far this has been the case we will quote the following facts and figures: In 1882 the average rate was 1.23 cents, in 1891 0.93 cents, a decline of 24 per cent; in the meantime the tonnage moved one mile rose from 3,764 to 4,440 per mile of track, an increase of but 17½ per cent; and it is therefore natural that the receipts from freight per mile of railway declined from $5,074 in 1882 to $4,687 in 1890, a falling off of 7½ per cent.[2]

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[1] Cincinnati *Price Current*.

[2] According to *Poor's Manual* 482.9 million miles were run by freight trains in 1890 on 157,967 miles of railway, they carried 701,3 million tons of freight, or 79,192 million tons one mile. Average number of tons moved per mile of railway 4,440. Average number of tons in one train per mile 163.99 average haul 112.91 miles.

To offset this serious decline of earnings in spite of growing business has been the problem railroad men in America found themselves confronted with, and it must be conceded that they have coped with it in a remarkably successful manner. While rates fell the capacity of trains was increased and thus the cost of moving a ton was cut down to an amazing extent. I regret there are no data relating to this matter for the entire system, but the following figures taken from the annual report of the New York Central show the extent to which the cost of transportation has been reduced:—

NEW YORK CENTRAL & HUDSON RIVER RR.

	Earnings per Ton Mile on Freight.	*Expenses per Ton Mile on Freight.*	*Profit per Ton Mile on Freight.*	*Earnings per Train Mile on Freight.*	*Expenses per Train Mile on Freight.*	*Profit per Train Mile on Freight.*	*Average Number Tons of Freight per Train Mile.*	*Million Tons Freight Earning Revenue Carried One Mile.*
	cts.	cts.	cts.	$	$	$		
1870	1.88	1.15	0.73	1.95	1.19	0.76	103	769
1871	1.62	1.01	0.61	2.07	1.28	0.79	127	898
1872	1.59	1.12	0.47	2.05	1.45	0.60	129	1,050
1873	1.57	1.02	0.55	2.02	1.32	0.70	129	1,246
1874	1.46	0.98	0.48	2.03	1.37	0.66	139	1,391
1875	1.27	0.90	0.37	2.11	1.49	0.62	166	1,404
1876	1.05	0.71	0.34	1.89	1.28	0.61	180	1,674
1877	1.01	0.69	0.32	1.68	1.15	0.53	166	1,619
1878	0.93	0.59	0.34	1.71	1.10	0.61	183	2,062
1879	0.78	0.54	0.24	1.52	1.05	0.47	191	2,295
1880	0.87	0.54	0.33	1.92	1.18	0.74	216	2,525
1881	0.78	0.56	0.22	1.70	1.23	0.47	217	2,046
1882	0.73	0.60	0.13	1.62	1.31	0.31	219	2,394
1883	0.91	0.68	0.23	1.82	1.37	0.45	199	2,200
1884	0.83	0.62	0.21	1.64	1.23	0.41	196	1,970
1885	0.68	0.54	0.14	1.29	1.01	0.28	188	2,137
1886	0.76	0.53	0.23	1.47	1.02	0.45	193	2,414
1887	0.78	0.56	0.22	1.51	1.09	0.42	198	2,704
1888	0.77	0.59	0.18	1.43	1.11	0.32	186	2,754
1889	0.76	0.56	0.20	1.68	1.26	0.42	226	2,775

This table shows a fall in rates during twenty years of 60 per cent., and a decline in cost of transportation of 52 per cent. At the same time the profit per ton mile fell almost 70 per cent., and the profit per train mile declined

45 per cent. The figures relating to the New York Central may be regarded as giving a fair indication of the course of business on most lines.

These figures undoubtedly show that managers and engineers were equal to the occasion. The increase in tonnage contributed something towards compensating for the decline in rates; but we must not overlook the fact that the growth of volume would have been of not the slightest use to railways if they had not reduced their operating expenses to such an amazing extent. The cost of transportation was reduced 50 per cent. in twenty years; but we must remember that a reduction of 30 per cent., a feat not achieved anywhere in Europe, would have utterly failed to keep profits above *nil.* Profits became possible only when the cost of transportation had been cut down to such an extent that with very low rates an ample margin was still left; and it is not easy to realize what it meant to maintain such margin with transportation charges fifty per cent. lower than in England.[1]

This remarkable achievement has been rendered possible chiefly by improvement in two directions: in the first place by the improvement of the roadbed, by ballasting, grading, and the substitution of steel for iron rails;[2] in the second place by the reduction of "dead weight." As regards track it is not necessary for me to enter into many details. In England it seems to be better on the average than in the States, although the assertion is disputed by American engineers, and even by Englishmen.[1] No doubt there are roadbeds in the United States as good as the best pieces of track which even the Northwestern can show, but on the whole English railways seem to have better roadbeds than those of America. It is probable, however, that before long America will leave us behind, because in that country constant and rapid improvements are effected while England makes little progress. Grades and curves are reduced almost everywhere, and ballast and steel rails introduced with a rapidity that has never been known on this side of the Atlantic. In 1880 there were 81,976 miles of iron rails and 33,680 of steel. In 1890 there were 160,606 miles of steel rails and 40,697 of iron, so that within ten years the proportion had been much more than reversed.

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[1] Mr. J. S. Jeans, the foremost statistical authority on railways of the U. K. says in *Railway Problems*, p. 276: "It is a well established fact that in the United States the average ton-mile rates are much under those of the United Kingdom." Mr. E. B. Dorsey in *English and American RR. Compared* says that after careful inquiry and consideration he has arrived at the conclusion that the average freight rate per ton mile in the U. K. is about 1¼d. (2½c.) In the U. S. it was in 1880 0.93c.

[2] There were 33,680 miles of steel rails in 1880, in 1890 167,606: during the same period the length of iron rails decreased from 81,976 to 40,697 miles. The average weight of steel rails is about 67 to 70lbs., but heavier rails are constantly introduced. The N. Y. C. and Pennsylvania have 87lb. rails, and on some lines, for instance parts of the Philadelphia & Reading 90lb. rails, have been laid.

The substitution of steel rails has considerably cheapened the cost of locomotion, as also have other improvements of road bed; but economy has chiefly been effected by the proportionate decrease of "dead weight" in trains. A locomotive of course can do but a specified amount of work, can move but a given weight. This weight is partly "dead" partly "live"; in other words, a train consists of weight which yields no revenue-cars, and of paying weight, in other words, goods. To contain the latter a given amount of the former is necessary, but Americans have always endeavoured to reduce "dead" weight to a minimum in order to carry the maximum of paying freight with a given quantity of locomotive power; and the result of these endeavours is that the Americans are admitted to have no equals in the art of moving freights cheaply. I have already shown that in the United States freight is moved 50 per cent. cheaper than in England, and this is so because one American locomotive is made to move more paying freight than an English engine. The same amount of fuel and labour which in England are transformed into a given amount of motive power does twice as much in the United States, for not only is there less dead weight, but in addition trains are much heavier and speed is slower while locomotives are stronger and perform more service than their English sisters.

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[1] *The Mechanical World* of Manchester, Eng., after carefully reading Mr. Dorsey's book, reiterates its statement that English tracks are better than ours. *Engineering News.* (New York).

In America there are no small box-trucks as in England; all cars are large, most of them having eight wheels and a capacity of thirty tons. In England a car carries 8 tons and weighs 5, a proportion of 1·6 to 1; an American freight car of the standard type carries 30 tons and weighs 12, a proportion of 2·5 : 1. But in addition to the economy obviously resulting from this, savings are effected because more service is got out of engines. The giant locomotives of the United States are not only stronger and do more work with less fuel, but at the same time cars and engines perform more work than in England, and the difference increases almost annually. The lower rates are the more rolling stock is taxed to its utmost capacity. In 1870 the averaged run of Pennsylvania RR. freight locomotives was 19,888 miles for the year[1] while in 1890 it was 28,859 miles; passenger locomotives averaged 51,000 miles per annum on the New Jersey division[2] and there was one locomotive which ran 86,653 miles, considerably more than 200 miles for every day in the year.

On the whole the geographical conditions of the States are favourable to railways, the greater part of the soil being plains, where railways can be built very cheaply because the ground is level. Only in the mountainous regions do we meet with great natural obstacles and with some splendid engineering feats. Among the latter the most prominent are the Hoosac Tunnel, on the Fitchburg RR. over five miles long and lit throughout with electricity by means of 1,250 incandescent lamps; the Kinuza Viaduct of the Erie, consisting of nine towers, the central of which is 312 feet high; the Portage Viaduct on the same line is almost as remarkable, and both on the Baltimore and Ohio and the Pennsylvania there are some splendid works, the Horseshoe Curve on the latter being well known. In the great Mississippi Valley there are, beyond bridges, few great works, but the Rocky Mountains again abound with them. The Denver and Rio Grande is nothing but a succession of triumphs over natural obstacles, and so is the Colorado Midland and the Pike's Peak RR. The loop on the Union Pacific near Georgetown (Colorado) is also remarkable, and so are many parts of the Central Pacific with its snowsheds and its splendid trestles and viaducts in the Sierra Nevada. On the "Shasta Route" (Oregon and Cala. RR. of the Southern Pacific System) there are some of the steepest grades and boldest curves, and other works can be found in different parts of the country, many of them imposing by their boldness and their light construction. As regards bridges, trestles and embankments, these are, on the whole, not as solid as in England or in Europe generally. Most railways were built in a hurry, and hence they still lack the perfection of English roadbeds, although improvements are constantly made. Crossings are nearly all on level ground instead of at elevations, and frequently one train has to stop to let another cross its tracks. There is no inter-lock system as in this country, and hence more accidents occur. In many cities, even in large towns like Philadelphia and Chicago, railways traverse and cross streets like trams, the bell of the engines giving constant warning, while at night the bright lantern of the tall locomotive sends a stream of light ahead. By no means all lines are enclosed by fences, and hence the "cow-catcher" of the locomotive is often of good service in removing obstacles, mostly cattle.

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[1] Jeans, *Railway Problems*, p. 325

[2] Pennsylvania Annual report, p. 100.

PART III.

THE RAILROADS AND THE INVESTOR.

CHAPTER VIII.

CAPITALISATION.

Mr. C. F. Adams, one of the earliest writers on "The Railroad Problem," has remarked that "The political habits of the various peoples determined the relations between their Governments and the railways. The nations of Continental Europe, with few exceptions, are by political habit administrative, the English speaking peoples parliamentary; in other words, the governmental systems of France, Germany, etc., are essentially executive, those of England and the United States legislative. Now, the executive may design, construct and even operate a railroad, the legislative never can."[1] For that reason State ownership, or even an interference with railway matters on the part of the Government as it exercised in most Continental countries, would have been impossible in the United States as well as in the United Kingdom; and as it is alleged that liberty on the other side of the Atlantic is a more extended liberty than the English species, it seems but natural that railways in the "land of the free" should enjoy a greater amount of freedom than those of the country whose inhabitants "never will be slaves." But liberty, and especially freedom of action granted to railways, resembles a drug: it must be given in proper quantities, commensurate to the constitution of the body for whose benefit it is administered. If given in too large a dose it may be hurtful, in too small a quantity it may prove ineffective. In England the amount of liberty extended to railways has been measured out very carefully, as it were by the spoonful; in America it was given in wholesale quantities. The result is that in England the happy medium seems to have been struck as nearly as possible in the shape of a certain amount of sensible and inobstrusive supervision on the part of the people, whereas in the United States until very recently no control has been exercised over the railway corporations, while even now there is no supervision whatever over their capitalisation.

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[1] C. F. Adams, *RR. Problem*, p. 115.

There can be no doubt that Americans have placed too much faith in the opinion they entertained some decades ago as to the proper powers to be conceded to railway companies. The attempts to secure a certain amount of control over the railways, and above all the Interstate Commerce Act, afford abundant evidence of that. It is not in the least venturesome to say that the opinion prevailing to day among the American people with regard to the relations between the State and the Railroads is diametrically opposed to the views entertained twenty or thirty years ago: it is now generally conceded that the former absence of a certain amount of State supervision is deeply to be regretted. In some respects the damage can still and in all probability will be repaired, in others this will be found impossible; and first and foremost among the irreparable losses inflicted by the concession of unrestricted powers rank the regrettable consequences which the total absence of supervision over capitalisation had for the earlier investor.

In England the issue of securities by railway companies was regulated as comparatively early as in 1866, when the Railway Securities Act was passed. In the United States, however, there is still no legislation limiting the powers of railroads to issue shares and bonds, nor has Congress ever passed a special law restraining railway managers from making fraudulent issues. The board can act as they please, although of late the shareholders in many cases have provided the check which the Government failed to furnish.

The result of such a vast amount of discretion is obvious

Even in England, where business in the early days of railroading knew a far higher standard of commercial morality than in the United States during the seventies or thereabouts, the great powers of railways with regard to the issue of securities resulted in gross abuses and in the inflation of railway capital; in America it led to frauds and malpractices upon a still larger scale, and furthered the introduction of such a formidable amount of "water" that the fictitious capitalization at times involved the entire interest in difficulties of the gravest nature, while until the middle of the eighties there never was a period, however brief, during which at least a few of the more prominent companies were not struggling with troubles directly emanating from the large amount of fictitious capital. Water was at one time the fundamental evil of American securities, and the unrestricted power to create it assisted materially in the numerous gross abuses and swindles which rightly brought them into discredit.

In the main there were six different ways of inflating the capital of American railways.

1. By fraudulent issues of bonds and shares as a downright swindle or for speculative purposes.
2. By paying too much for construction.
3. By purchasing properties at excessive prices.
4. By buying superfluous competing lines.
5. By selling bonds and shares at a discount.
6. By declaring stock dividends.

Fraudulent issues of course were the worst form of "watering." The issue of "securities" of chimerical companies, sold in Europe for whatever they would fetch[1] has little to do with our purpose, since it was an ordinary fraud which might have been perpetrated as well with canal, steamship or any other securities. The fictitious issue of stock for the purpose of manipulating the market, however, was of more direct importance to shareholders. The Erie Railroad has been cursed with it more than any other railway. "Jim" Fisk and Jay Gould increased the share capital of that company between 1868 and 1872 from $17,000,000 to $78,000,000 mainly to manipulate Wall Street; and these proceedings were so universally condemned that the Board of the New York Stock Exchange in 1869 refused to quote these shares any longer. Fisk, Gould and Drew made vast sums over these speculations, and so did President Watson, who a few years later doubled the funded debt, it is said also chiefly for his own benefit.

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[1] While I was in the United States a friend in Europe requested me to inquire into the value of certain bonds left to him by his father. It appeared that the line by which the bonds were alleged to be issued never existed.

Hardly less repulsive than this practive was the second, consisting of paying excessive prices for construction. In the early days of railroading it was not unusual for railway companies to enter into contracts with construction companies which built the lines at excessive cost. Such construction companies were usually composed of members of the board and their friends, and of course served no honourable purpose, their object being to enable directors to make money at the cost of the investor. Thus, for instance, Vanderbilt started the South Pennsylvania Railroad to compete with the Penna. This road has been proven to have cost actually $6,500,000, and a responsible contractor had offered to build it at that price. Yet a construction company, composed of Vanderbilt's clerks, received $15,000,000 to complete it; and the syndicate of capitalists which supplied this money got $40,000,000 in bonds and shares, so that for every dollar of actual cost over six dollars of bonds and shares were issued. In the same manner, though not in the same proportion, the thing was worked all over the Union, especially in connection with the Pacific roads, a group of railways which has seen more frauds than any other. The builders of the Central Pacific, for instance, commenced with the modest sum of $159.000, and taking this as a nucleus they completed the road, gathering a total capitalization of $139,000,000, and acquiring large fortunes over the transaction; the Government Commission on Pacific Railroads in its Report to Congress says that $58,000,000 would have been a very good price for the railway.

On a par with construction companies was the purchase of other properties at excessive prices. The Coal and Iron Company of the Reading, for many years a great burden to that line, affords one of the most famous cases, this concern being paid for, it is said, at the rate of at least twice its intrinsic value. Years ago it was a common thing for railroad directors to buy a property in their private capacity, and then sell it to their company at an immense profit; and until twelve or fifteen years ago the majority of purchases of auxiliary concerns used to be permeated with fraud.

Watering resulting from the purchase of "parallel" lines, which also in numerous instances was taken advantage of to carry out some "deal," was in a measure unavoidable, the independent existence of such lines being a constant danger to others, and destructive to all parties concerned. The Vanderbilt interest were compelled to lease the West Shore and to buy the "Nickel Plate" unless they wished to see their other properties turned into financial wrecks, and the Pennsylvania had to arrive at a compromise with Vanderbilt, resulting in the construction of the South Pennsylvania RR. being suspended, if it wished to see its monopoly maintained in Pennsylvania; and on the whole it may be said that this form of watering, under the peculiar circumstances that prevailed, could not have been prevented. Yet it caused a considerable amount of superfluous capital to be employed in transportation.

Of all methods, the fifth, selling stocks and bonds at a discount, was the most universal and the least objectionable, and in almost every case it was excusable. Especially in the early days of railroads there was little inducement to invest money in these enterprises, and to create such inducement bonds were sold at a discount, and shares were frequently given into the bargain. But even Governments sell their securities below par to-day, and the railways, by their prospects, were justified in borrowing money at excessive rates if they could not get it otherwise. Like the cotton planters of the South, who after the war often paid fifty per cent. interest on the capital required for bringing their cotton lands under cultivation, the railways would have outgrown the payment of excessive rates for money if their affairs had otherwise been conducted with honesty and integrity. But instead of being the rule these two qualities at a certain period were the exception, if, indeed, they could be met with at all. And, as we have seen above, those who had to pay excessively for the money they required, instead of endeavouring to effect economy in other directions, evidently thought that, such a heavy handicap having been placed upon the railways, it could not matter much whether the burden was increased a little or not. As regards the practice of selling merely bonds, and giving shares into the bargain, this method of doing business certainly looks peculiar. But it should be remembered that those who advanced money would not do so unless it was upon security, and that it was usually impossible to find a sufficient number of mere shareholders. To many even bonds seemed no sufficient equivalent for their investment, and besides prior rights upon the property they also wished to possess control of the company, and a chance of partaking in future profits; and shares being not much sought after it mattered little to the promoter whether he gave shares into the bargain with bonds or not. The majority of companies realised nothing for the shares they issued in their early days. The Missouri, Kansas and Texas Railway Company, for instance, *gave* $21,400,000 in shares to a construction company, in addition to the payment made in bonds. The New York Central, Erie, Reading, St. Paul, Chicago and North Western, in short, almost every railway company, as a rule received nothing for the earlier issues of its ordinary shares although, as is well known, shares are no longer given away, and frequently sell at good prices.

But the abuses of the early days of railroads, above referred to, and the sale of securities at a discount, were not the only causes of "water"; the ficticious capital resulting from the payments of stock dividends amounts to a sum second only to the inflation caused by sales of securities at a discount. The most famous stock dividend ever distributed was one of 80 per cent., paid in December, 1868, on the shares of the New York Central RR. Company, and eleven months later, when the consolidation with the Hudson River RR. followed, a further stock dividend of 27 per cent. was declared, while the Hudson River RR. shareholders received one of 85. The Reading paid a scrip dividend of 10 per cent. in 1846, and one of 12 in 1847, while between 1871 and 1876 upon a capital of $34,200,000, already fictitious to the extent of probably more than one-half, $15,700,000 was paid in dividends, mostly in scrip. The Erie RR. made still larger payments of stock dividends; the Chicago, Burlington and Quincey RR. paid 20 per cent. in 1880, the Atchison, Topeka and Santa Fe 50 per cent. in 1881, and the practice may be said to have been general, and is still resorted to in numerous cases.

None of the six methods of watering enumerated and described above call for comment, except the last. A stock dividend is somewhat of a farce, and of a deceptive nature. Several objections have been offered against it; and on the other hand it has been defended with forcible arguments.

A scrip dividend is usually paid to shareholders as a substitute for cash dividends which have been passed. A board feels that shareholders are entitled to some return upon their capital; but having no cash they pay scrip or shares. A moment's reflection will show that such a dividend is really no dividend at all. It creates more shares, and hence future distributions must be so much smaller. If a company pays a stock dividend of fifty per cent. its future dividends must be $33^1/_3$ per cent. less than otherwise, and hence a scrip dividend is delusive. He who receives it does not thereby get a farthing more upon his investment when cash dividends are resumed.

Yet scrip dividends do not altogether fail to benefit shareholders as a mass. Experience has shown that a stock dividend usually enhances the prices of shares; for instance, if a dividend of, say, 50 per cent. is declared upon a stock quoting at 60, the price of the latter will rarely fall to 40 as it ought to do, but as a rule remains above that figure, so that usually there is a gain for its owner, which, it is asserted, offsets the nonpayment of dividends. But with regard to this matter the fact should not be lost sight of that these profits rarely reach the persons for whom they are intended, namely the investors who perhaps for years held an unremunerative security. Shares change hands more frequently than bonds, and hence the benefit of stock dividends usually falls upon people who have not deserved it by former sacrifices. But the fact that stock dividends proportionately raise the prices of shares renders them especially objectionable, inasmuch as it constitutes a temptation for directors to declare them and to speculate. Instances are on record in which such dividends were declared solely for speculative purposes. In the majority of cases they fail to fulfil their aim of rewarding the investor who owns unremunerative shares; and their influence upon speculation would render them obnoxious if there were no reasons why they should be declared.

Their desirability is based upon two circumstances: the rise in the value of railway property, and the tendency of Legislatures to cut down rates whenever they are so high as to make the possession of railway stock remunerative. The American people, although on the whole, I think, by no means unreasonable, are opposed to large corporations, a fact so abundantly demonstrated by the attitude of their Legislatures and Courts of Justice that it is not necessary to supply proof of the assertion. They do not stop to think that action detrimental to a vast interest like railways must fall back upon the people; they consider anything done to its disadvantage to be a public gain. Hence the people are "hard on railways," and as railways by their conduct hardly promoted an amicable *entente* with the people, the latter had a good deal of provocation, and often became unreasonable. For instance, it is almost a maxim in the Northwest that no railway should be allowed to pay more than 4 per cent. on its common stock. "The stock being water to the extent of at least one half," the Granger reasons, "four per cent. means eight, and eight will do." But if thus he talks Farmer Hayseed over-looks two important matters. In the first place he forgets that the shareholder, no matter whether foreign or native, has for many years held unremunerative stock, that in bygone days he has incurred risks and suffered losses, and that hence he is entitled now to returns which offset these. In the second place the average American does not see that a railway company as well as a private individual is entitled to reap the benefits of an increase in the value of its property and may lay claim to compensation for the risk run by early investments to which, more than to anything else, the wealth and the welfare of the Great Republic are due. In a previous chapter we have seen that with regard to rates the interests of the people conflict with those of the corporations; but if we consider the above grounds we must necessarily come to the conclusion that they are antagonistic chiefly because of the unreasonable attitude of the nation.

This unreasonable attitude has compelled the railways to ward off its effects; and for that reason stock dividends were resorted to as a dodge. By inflating capital they would conceal profits, and thwart the designs of rate-reducing Railroad Commissioners. On the whole they have fulfilled their mission, and, as we hope to show below, scrip dividends benefit the investor because, by concealing profits, they cause his investments to yield higher returns than would be permitted by Grangers if uninflated stock were to earn high dividends, although substantially the same returns as now. In this manner the investor of to-day receives redress for the wrongs done to his predecessor. It is the result of a trick, and the public sees its secret; but that does not appear to curtail its success, a success altogether in accord with fairness and justice.

From the foregoing the reader must have received the impression that a formidable proportion of the capital now nominally represented by American railways is fictitious. It is generally conceded that the New York Central, Erie, and Reading companies between them have water to the amount of at least $200,000,000, while some, Mr. J. F. Hudson for instance, estimate it at $300,000,000 out of an aggregate capitalisation of $500,000,000; and from this we can infer how much water the entire system contains. Both in respect of the extent to which watering has been carried on, and the degree in which the process was applied, we find some interesting details in *Poor's Manual* for 1884. In that year Mr. H. V. Poor wrote: — "The increase of share capital and indebtedness of all companies for the three years ending December 31, 1883, was $2,093,433,054, the cost of the new mileage as represented by share capital and debt being about $70,000 per mile. The increase in the three years of the funded debts of all the companies was $924,165,440; of their floating debts, $169,880,406; of the two $1,094,045,846. It is not probable that the cost of the mileage constructed in the three years equalled the increase of funded and floating debts by at least the sum of $200,000,000. The cost of the mileage constructed certainly did not exceed $30,000 to the mile. The whole increase of the share capital, $999,387,208, and a portion of the funded debt, was in excess of cost of construction. It will be seen by a statement hereto annexed that stocks and bonds to the amount of $530,132,000 were listed at the New York Stock Exchange in 1883. The amount of stocks and bonds listed was equivalent to about $80,000 per mile of new road built during the year."

From this it seems we may infer that the average cost of American railways in 1883 was about $30,000 per mile; and if, on account of subsequent betterments we make a further allowance of $10,000 we find that to-day the total capitalisation ought to be $6,840,000,000 for 171,000 miles, whereas it actually reaches $10,122,500,000. This estimate, however, is in favour of the railways, for Mr. Poor, in his Manual for 1884, further says that the *bona fide* investment in railways probably does not exceed the aggregate of their floating and funded debts, and if this holds good to-day there would be, not as I presumed above, $3,282,000,000 of water, but $4,640,000,000. Some writers even go as far as to allege that the estimate of Mr. Poor, whom they deem a spokesman of the railways, is moderate and conservative, and the fictitious capital is said by some, among others by Mr. Hudson, to amount perhaps to fully two-thirds of the total capitalisation.[1]

The consequences of watering are as varied as the means by which it was effected. Like most railroad questions they admit of divergent views, varying according to the position taken; it is evident that the public saw the matter in a different light to the companies, and in consequence a controversy arose in which the public got the best of it because the railways, having resorted to water partly for fraudulent purposes and partly with the aim of self-preservation, could not take the public into confidence, and had to rely upon arguments which were not forcible because they were not true.

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[1] It is not so very improbable that this estimate is much too high. Apart from the inflation caused directly by watering, the capital appears much greater than it is for another reason, namely on account of amalgamation. The Pennsylvania RR. for instance, has a capital of a little over $700,000,000 but owns stock and bonds of other companies with a par value of $151,000,000, and this latter amount is counted twice in statistics of capitalisation. As numerous railways own large amounts of securities, issued by subsidiary companies, which are counted twice, at least another $1,000,000,000 of apparent but not real capital may be assumed to exist.

I have elsewhere referred to the view which the public took, and still takes, of water, and it is therefore not necessary to enter at length into this part of the question now; to briefly recapitulate the principal arguments against it will suffice. Water, then, begot a desire to charge such rates as would render possible good returns upon capital; this is an undisputed and an indisputable fact, although it would be bad policy on the part of the railways to avow it frankly. Water led to pools; it resulted in discriminations which were applied because it was expected that they would enhance earnings; and it caused rates to be made as high as was possible under the circumstances. In view of facts like these it is natural that the public, with its unreasonable demands for low rates, and its opposition to heavy returns upon railway capital, strongly condemned watering.

As to the investor, until a few years ago he had as little reason to approve of watering as the public. In the first place he had been the victim of numerous frauds. In the second place watering had caused competition; wherever there existed a line burdened with "capital" there was the temptation to build another with less stock which, since it had to earn but one-third or one-fourth to pay the same return per cent. upon its small capital, could enter into a very successful competition. In the third place there would have been fewer rate wars, not only because, as we have just shown, there would have been less competition, but also because all companies would have been placed on an equal basis, that of actual cost, in their endeavours to earn fair returns, with the result that "cuts" would have been put a limit to by the requirements of solvent systems. In the fourth place, if there had been less water there would have been better returns upon capital, as a result of which bonds could have been placed at 4 or 5 per cent. instead of 7 or 8, and the returns upon shares would have been higher; yet as a low rate of interest is scarcely desirable from the investor's point of view, we can leave this phase alone.

Finally, water caused a distrust which resulted in a very serious depression of railroad securities. To quote once more from Mr. Poor's excellent handbook (for 1884) that gentleman has said: "It is in this (immense increase of fictitious capital) that is to be found the cause of the general distrust which prevails, and the enormous decline in the price of railroad securities. From 1879 to near the close of 1883 a most singular delusion rested upon the public as to their value, and this delusion was taken advantage of on a vast scale by able and unscrupulous adventurers. Whatever was manufactured and put afloat was seized with avidity by an eager and uninformed public. The delusion was increased and prolonged by payments on a very large scale of interest and dividends from capital. In this delusion the most loud-mouthed and unscrupulous promoters usually had the greatest success. The delusion culminated about the time of the opening of the Northern Pacific, in connection with which visionary schemes of immense magnitude had been put upon the market. Their worthlessness, and the rapid decline of their securities, exerted a powerful influence over the public mind which continues unchecked to the time of writing this. The distrust extends alike to good and bad, so that prices at the present time have as little reference to values as they had at the beginning of 1883. The distrust will probably continue until time shall show what securities are really well based."

In England it lasted considerably longer. Even to-day it has by no means disappeared, and with the old rascalities still lingering in the mind of our investing public this can cause little surprise. As recently as 1885 the public—it may be useful to say the American public as well—had been imposed upon in a manner which renders it difficult to say which of the two was the more surprising, the audacity of the impostor or the credulity of those imposed upon. The exposure of the swindles was followed by a distrust which so entirely possessed itself of the public mind that it lasted long after the cause had disappeared, and in a measure continues in spite of the great improvement in railroad matters and railroad morality which set in in 1885 and has continued to grow ever since.

This improvement has been altogether marvellous, and we seem to recognise this to a very small extent; at least this must be deduced from the fact that issues of American railroad bonds are eagerly subscribed for now at rates which ten years ago would have attracted few investors. But this fact is not solely a consequence of greater faith in these securities; the redemption of U. S. Bonds, the conversion of the National Debt, the increase in the number of Trusts, and other events have improved the demand for American railroad securities, and probably contributed more to their popularity than the consciousness that these investments deserve greater confidence now than they did ten years ago. There is in England, and in Europe generally, not that faith in American railway stock, and especially not in American railroad bonds, which they deserve, and no wonder. It is but ten years ago since methods of management gave abundant reason for distrust, because we had been cruelly deceived and disappointed; not accustomed to observe rapid changes in our own surroundings we were slow to believe that in America a change from bad to good could be effected within a single decade. Yet this is what has taken place. A visit to the States, and perhaps even only a thorough study of American railways, will readily convince us of the immense improvement in every direction, although changes, however favourable, do not amount to a complete cure. Of so great a flock of scurvy sheep every single one cannot reasonably be expected to have become sound within so short a time; yet although the order of things has not been absolutely and completely reversed, there are so many favourable changes that by this time the healthy element preponderates by far, while the unhealthy contingent grows smaller day by day. In England most people do not appear to be aware of this enormous alteration, and in spite of abundant reasons for a revision of opinion the same notions concerning "Yankee Rails" which were held ten years ago continue to prevail to-day among the majority of European capitalists. in spite of the reasons for them having almost entirely disappeared. Most investors, being unaware of the great change for the better, still believe that American railway securities deserve little confidence and no reliance, and many continue to regard the companies as being chiefly tools provided for the use of cunning men and designed to fleece the foreign lamb, however ill-founded this opinion may be to-day.

With regard to "water" we have modified our ideas as little as in respect of other matters pertaining to American railways. Ten or fifteen years ago we felt sure that nothing had hurt the foreign investor as much as "water" and the frauds connected with it, and our opinion was well-founded then. To-day we hold the same views although they are no longer warranted by facts. But then it is natural that in Europe, with its mature conditions and slow changes, we should fail to realise the rapid movements a young and vigorous country like the Republic witnesses.

Let us see whether facts still entitle us to hold the view that watering is to the detriment of the foreign investor of to-day. If so it must of course affect the returns and the credit of American railways.

In 1890 the return paid upon the total capital was, according to *Poor's Manual* for 1891:—

Upon Bonds	4·36	per cent.
„ Shares	1·80	„ „
„ Total Capital	3·03	„ „

First, as to Bonds. The figure indicating their average yield is too low, and for the following reason. Mr. Poor finds this percentage by dividing the total amount paid by railways to their bondholders by the total amount of railway bonds issued. But his divisor is too large; for example, some bonds (such as Income bonds, of which quite a large amount is issued) are hardly bonds at all, and yield no certain minimum interest. Yet it is not necessary to take this into account; the mere fact that American RR. bonds pay an average of 4·36 per cent. suffices to show that water is not detrimental to the investor of to-day. These bonds represent no par investment; the average price at which they reached the first investor probably did not exceed 67, no matter what somebody who buys them to-day must give for them. Hence American bonds now actually return an average of about 6·50 per cent. upon real investment. Does this show an injurious effect of water upon their remunerativeness?

Another argument. I have compiled the following table showing the average interest paid by certain leading companies, selected so as to represent railways of a varied nature in different parts of the country, and indicating our estimate of their credit by the net return upon their bonds according to London quotations of April 1st, 1892:—

	Average interest paid upon total funded debt 1890.	*Net income upon bonds according to London quotations of April 1,* 1892.
New York Central	6·09 per cent	5·00 p. ct. upon sixes
Erie	6·73 "	5·00 " " sevens
Norfolk & Western	5·39 "	4·76 " " sixes
Lake Shore	4·58 "	———
Wabash (¹)	5·43 "	———
St. Paul	5·77 "	4·75 " " fives
Atchison (²)	4·57 "	4·70 " " fours
Burlington	5·14 "	4·96 " " fives
Denver & Rio Grande	4·59 "	4·68 " " fours
Union Pacific	6·50 "	4·72 " " sixes
Louisville & Nashville	6·19 "	5·54 " " "
Average	5·54 per cent	4·90 per cent.

[1] Funded debt less debentures.

[2] Les income bonds.

This table shows that eleven representative railways pay an average of 5·54 per cent. upon the money advanced to them upon security. We, however, quote bonds so high that we receive but 4·90 per cent. In other words, we estimate their credit at the latter figure, and to all intents and purposes lend them our money against an interest amounting to 4·90 per cent., while the railways pay us 0·64 per cent. above the minimum interest we would accept. How can we reconcile this with the allegation that watering and past frauds hurt the investor of to-day? No doubt it *was* to his detriment, once upon a time; but surely it no longer is now.

The above relates only to bonds, but we shall show that the same conclusion must be arrived at with regard to shares. Shares, according to *Poor's Manual*, now pay 1·80 per cent. on the average, apparently no high figure. We will bear in mind that, if there were less "water" in bonds, or less in shares, they would pay more. But for $4,650,000,000 shares now in existence, the original investor certainly paid not more than $465,000,000, or ten per cent. of their face value, and probably less. *Hence shares now return at least 18 per cent. per annum upon actual investment.* True, those owning $1,000 in shares receive but an average of $18 per annum upon them; but in the majority of cases shares cost the investor nothing. That their prices were put up on Stock Exchanges is a fact which is altogether outside our present argument. We see Readings quoted to-day at 29, or 58 per cent., and Eries at 30. But if these shares yield no dividend those who buy them must not blame the railway or "water." From the moment a share leaves the safe of the company the latter is no longer in any way directly responsible for its quotation. Shares were mostly given away; hence whatever they pay is mostly profit.

But not only is water no longer to the detriment of investors; it positively is to their benefit. All that has been said to the contrary notwithstanding, water emphatically begets a desire on the part of railway managers to charge such rates as will pay returns upon fictitious capital. Whether railways will succeed in all cases is an open question; that they have succeeded in many is beyond dispute. The New York Central, the Chicago and Northwestern, and many other companies, pay good dividends upon largely inflated stock. The St. Paul, the Northern Pacific, and many others are trying too. Now let us suppose there were no "water." Then the companies, with the same earnings, would pay enormous returns, probably an average of 10 per cent. or even more. Would the nation with its never ceasing complaints of rates—would the State Legislatures which reduce transportation charges as soon as returns upon capital exceed a moderate figure—permit a return of 10 per cent. to be paid upon railway capital? Surely not. Everybody may see through such a device as watering stock to conceal profits, but it nevertheless effects its object. And it is but fair that it should do so. Stock was given away and "water" created mainly — though by no means exclusively — to give something which in the future would reward those who sacrificed in the past. Hence the investor of to-day receives great benefits from the wrongs inflicted upon his predecessor. He receives a fine rate of interest on bonds which he bought at a discount; he gets good returns upon shares which originally cost him nothing; the value of his investment in American railways has risen far above the price originally paid for it; and all this has no other cause than the much abused "water," which was a real blessing in disguise. In fact, there was so much of a disguise about it that most people did not see its true nature and sold their holdings, so that others got the benefit of their former losses.

"Water," especially with the more solid companies, was simply resorted to as a means of concealing profits, a device which as we have seen has been rendered necessary because the nation grudges good returns to railways; and it has become the habit of railway companies to pay such stock dividends, in other words to water their capital to such extent, as will cause every dollar of actual value of the property—a value which constantly increases—to be fully represented by the aggregate amount of their bonds and shares, in order that shareholders may receive the benefit of the appreciation of their property, and redress for wrongs inflicted upon them in bygone days.

CHAPTER IX.

SHARES AND BONDS.

The author has had some difficulty in arriving at a definite decision as to the contents of this chapter. It is evident that this book would be incomplete without any reference to the various securities, but the question, as far as the writer was concerned, was not only where to begin but also how far to go. Shares and bonds in themselves form a subject to which an entire volume might be profitably devoted without exhausting the subject; but as it is not purposed to give much space to side issues, a conclusion on the latter point was speedily arrived at. As to where to begin it was less easy to decide. No doubt the majority of readers are fully conversant with the classification of shares and bonds, and with many other matters dealt with in this chapter; and this class may object to being treated as abecedarians. On the other hand it is common knowledge that there are numbers of investors to whom even the A B C of American bonds and shares is enshrouded in mystery, and in view of this fact the author ventures to subjugate the interest of the majority to that of the minority, feeling sure that the former will forgive what they must regard as excessive explicitness, while the latter may be hoped to appreciate it.

Shareholders being the real owners of railways, it is only fit that we should give precedence to their interest, vested in shares, or, as Americans would say, stock.

As is the case with English shares, American railroad share certificates stand registered in individual names; but the practice of transferring them differs in the two countries. In England the transfer is upon a separate deed, whereas in America the deed, or power of attorney, is printed on the back of the share certificate; and the transfer being signed in blank by the registered owner, American railway shares virtually are bearer scrip. This practice has produced a system which has led to a great deal of abuse and inconvenience. Shares, especially those which pay no dividend, pass about for years in the name of the registered owner although the latter may have entirely parted with them. Even in the case of dividend-paying shares the same difficulty exists, so that a person holding stock in the name of another has to produce the certificate to the registered owner who collects the dividends.

This difficulty is considered one of the reasons why shares are rather unpopular in England, especially in the provinces, and at various times attempts have been made to remove the objections arising from this source. In Holland, where great amounts of American securities are held, the difficulty was emphasised by the fact that the majority of stock-owners were unfamiliar with the language in which the text of shares was written, and in consequence about half a dozen so-called "bureaux of administration" were established by leading houses where shares are deposited against certificates; and these bureaux, having direct relations with the various companies, receive dividends in bulk and distribute them amongst the shareholders after deduction of a small commission for collection. It is evident that this method possesses great advantages, not the least of which is that shareholders without much trouble can be represented collectively, which results in their united voting powers being usually applied with the greatest effect possible under the circumstances.[1]

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[1] J. D. Santilhano, Amerikaansche Spoorwegen, p. IX.

The obvious advantages of such a system, namely accessibility of dividends and concentration of voting powers, have resulted in its introduction into England being attempted some 8 years ago, when the English Association of American Bond and Shareholders was founded. To all intents and purposes this association is identical with the Dutch bureaux, but owing to some opposition by other interests its certificates have not as yet been accepted on the London Stock Exchange, although the directors feel confident that in due course they will succeed in obtaining a concession to which no serious objections can be made and which elsewhere has been found to work well.[1]

There are common and preferred shares. The latter, as their name implies, enjoy an amount of preference, varying in most individual cases, but always consisting of prior rights to dividends. Thus, to give an example taken at random, St. Paul preferred stock is entitled to seven per cent., non-cumulative, after fixed charges are met, before anything can be distributed on the common shares. The company has

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[1] A circular issued by the Association thus sets forth the disadvantages of the existing system:—

1. That the collection of dividends from nominal holders is attended with much delay, expense, and often with loss of the dividend, when the nominal holder cannot be found. In case of the death of the registered nominal holder, the collection of dividends through Trustees is almost impossible, and in all cases involves legal expenses. There is also the danger, which has recently been experienced, of Shares being passed on forged transfers.

2. In case of the death of an owner of American Railway Shares who holds the Shares registered in his own name, the transfer to executors can only be obtained by the original Shares being sent out to New York for fresh registration, together with a certified copy of the will, involving much delay, the cost of insurance, and legal expenses.

The advantages arising from registration of shares in the name of the Association are summarized thus:—

1. On Shares registered in the name of the Association the voting power is combined, and the dividends are received by cable-transfer on the day of collection in America, and are at once distributed by cheque of the Association in London.

2. To avoid the risk of sending Shares through the post to be marked for Dividend every time a Dividend is payable, the Association is prepared to issue against Shares registered in its name the Certificates of the Association, countersigned by the London and Westminster Bank, Limited, against the original Shares deposited by the Trustees and Directors, lodged with the Bank. To country holders this is a great convenience, as the Certificates bear numbered

the privilege of reserving as working capital a sum not exceeding $250,000 over the floating debt, and the accrued interest of the mortgage bonds. After payment of 7 per cent. on preferred stock both classes share further profits *pro rata.* Preferred stock is usually non-cumulative, and hence, if it does not receive its full dividend in any given year it has no claims to payment of the deficit in succeeding years. There are, however, a few instances of preferred stock being cumulative.

As regards bonds classes are more numerous. There are:

1. Mortgage bonds.
2. Equipment bonds.
3. Land Grant bonds.
4. Collateral Trust bonds.
5. Prior Lien bonds.
6. Debentures.
7. Income bonds.

A bond generally acknowledges that the railway issuing it owes a certain sum, (usually $1,000 but sometimes $500, or, with sterling bonds, £200 or £100) to bearer, payable on a fixed date and at a certain place; it stipulates the rate of interest and the intervals at which such interest is payable; it states the amount of bonds belonging to its class issued, and the property pledged as security for the payment of principal and interest (usually inclusive of the earnings

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coupons, and all that is necessary for a holder to collect his Dividend is for him to forward the Coupons either to the Association or to his Banker or Broker. The payments are notified very thoroughly through the press, thus, for example —

> The English Association of American Bond and Share Holders, Ltd. will pay on and after [the day mentioned], Coupon No. 12 on their Certificates representing Shares in the Pennsylvania Railroad Company at the rate of 3 per cent. (or at whatever rate is declared by the Company).

3. The Certificates of the Association are all to Bearer, and for $1,000 each (either 10 Shares of $100 each or 20 Shares of $50 each). In case of death these Certificates may be distributed by Executors without going to the expense, delay, and trouble of obtaining fresh registration on the books of the Railway Company.

Holders have the option, if they desire to do so, of retaining the original Shares of the Railway Company registered in the name of the Association, with Transfers signed in blank, and obtaining their Dividends on presentation of their Shares at this office to be stamped for Dividends claimed.

of such property), and further gives such stipulations as to redemption by drawings and sinking funds, conversion into other bonds or shares, etc., as may be necessary in its individual case. Bonds are usually signed by the President and the Treasurer of the railroad company and by the Trustees to whom most of them are made out, and who must defend the rights of bondholders should the company fail to meet any of the obligations it undertook in the mortgage deed.

The value of a bond depends of course upon that of the mortgaged property and upon the extent to which it is mortgaged. In some instances *division bonds* are issued which, as their name implies, are covered by divisions and not by the entire railroad. If a company requires funds for extensions it often issues *extension bonds*, which are secured by the additional lines built with their proceeds, and frequently in addition by rights upon the other property of the company, these rights, of course, ranking after those of prior mortgages placed thereon.

Frequently various descriptions of bonds are consolidated, and thus *consolidated* or *general mortgage bonds* are created. The issue of a general or "blanket" mortgage is usually resorted to with the double aim of obtaining new capital for extensions and of unifying various older descriptions, such unification being as a rule coupled with a reduction of interest, if possible under the stipulation of mortgages previously issued or permitted by their holders. It is superfluous to remark that such reduction is never voluntarily acceded to by bondholders unless a company gets into straits and is reorganised; and hence parts of general mortgage bond issues are kept in hand until existing descriptions fall due, when they replace them. If a general mortgage is issued the amount in excess of the portion destined to retire older descriptions is used for extensions or betterments; when the first is the case they have prior rights upon such new parts of the system as are completed with their proceeds; in the latter event it is obvious that their rights must yield precedence to older mortgages resting on the property. In consequence of the respective rights of these bonds *first*, *second* and *third mortgages* etc., are spoken of. *Equipment bonds* are issued to acquire rolling stock, and are secured by a mortgage thereon. Akin to them are *Car Trust Certificates*, not met with in this country nor quoted in New York, by the aid of which rolling stock can be bought on the "easy payment" system. These certificates are due at frequent intervals — usually semi-annually — and are secured by a lien upon the rolling stock in payment of which they are given.

Land Grant Bonds pledge lands granted by the Government (see p. 19) as a guarantee for regular payment of dividends. The land being gradually sold, and the proceeds applied to the retirement of land grant bonds, the majority of these securities have been redeemed by this time. Owing to the low prices realised for land (usually less than $2 per acre) and considering the rapid rise in the value of real estate, it would probably have been more advantageous to railways to have retained their lands for some time to come, but need of funds and the advisability of reducing fixed charges usually induced them to accelerate these sales.

Collateral trust bonds are issued against no other security than funds of other railways. Many of the greater companies own vast amounts of stock or bonds of subsidiary concerns which securities give them control; the Pennsylvania RR. Co. for instance possesses upwards of $150,000,000 (nominal) of similar securities. When new funds are required they are often obtained upon the security of bonds of subsidiary concerns which are given in trust to trustees. The value of trust bonds, like that of all mortgages, depends upon the value of the security upon which the advance is made, but usually the securities given in trust yield more than is required for the service of the collateral bonds, in which case the surplus as a rule goes towards a sinking fund out of which the trust bonds are redeemed.

Debentures are not frequently met with. They are bonds without any special collateral security ranking after specified mortgage bonds, and their value depends entirely upon the financial status of the company by which they are issued. Thus in 1889 the Wabash issued $30,000,000 Debentures which have thus far yielded no returns and which are practically issued upon faith, it being doubtful whether the Wabash if sold to-day would yield $30,000,000 more than the amount of its other funded debt, $48,000,000.

Prior lien bonds likewise are not frequently met with. They were usually issued to pay debts enjoying precedence over mortgage bonds, and in consequence they rank before all other mortgages.

Income bonds more resemble preferred shares than bonds, no dividend being paid unless earned. At the same time they are akin to debentures inasmuch as they are not issued upon any special security. They differ from preferred stock because no voting rights attach to them, and from debentures inasmuch as interest upon them in the majority of cases is non-cumulative.

In many cases bonds are redeemed by *sinking funds*. A sinking fund is created by payment of an annual sum (usually ½ or 1 per cent., plus interest upon retired bonds) to the amount of which bonds are cancelled, such bonds being singled out by means of drawings which take place at stated intervals. Drawn bonds are repayable at any time, and cease to bear interest from the date on which they fall due.

Gold bonds are so called because they are repayable in gold, while their interest must also be paid in that metal or its full equivalent. Gold bonds are issued chiefly because of fears concerning a depreciation of the United States currency, a fear which was inspired by the policy of the Government which, it was thought, might cause a gold premium in the Republic.

The issue of shares and bonds, as has been pointed out in Chapter VIII., is not regulated or checked by legislatures, and this has led to various abuses. Shares were usually given away and bonds frequently issued at a discount, and sometimes both were appropriated by unscrupulous managers *sans autre forme de procès.*

Interest and Dividends. The net revenue of railways, after deduction of taxes and rentals (which are usually classed among fixed charges) is available for returns upon capital. Whatever these returns may be, the several mortgages have the first claim upon them according to their degree of priority, and if we omit Collateral Trust and Land Grant Bonds, which as it were secure themselves and pay their own interest, the various descriptions of bonds will generally be found to rank as follows:—

1. Prior Lien Bonds.
2. First Mortgage "
3. Second " "
4. Third " " etc.
5. Debentures.
6. Income Bonds.

It may be useful to mention that there is another class of bonds, rarely met with, namely *Receivers' Certificates.* They are issued by Receivers to maintain the road, in other words in grave emergencies only; and for this reason the Courts have granted them first rights upon the property and placed them above prior lien and first mortgage bonds.

CHAPTER X.

INTEREST AND DIVIDENDS.

Regular payment of interest on bonds is compulsory, and its omission practically places a company in a bankrupt position, exception being made, of course, in the case of income bonds, which have no claim to interest unless earned. With regard to dividends, as distinct from interest, their payment is left entirely to the discretion of managers, except in the case of preferred stock where it usually *must* be paid as soon as earnings exceed fixed charges to an extent beforehand stipulated. In no case, however, does default in paying dividends, either upon preferred or common shares, signify insolvency.

In America the *declaration of dividends*, especially upon unprivileged shares, rests entirely with the directors, and is neither subject to the approval of shareholders, nor submitted to their consideration at annual meetings as is the case elsewhere. As will be seen below, it is most regular with the higher order of companies, but fluctuates considerably with corporations whose finances rest on a basis the soundness of which is not quite of the first order. Dividends are mostly paid at regular intervals and in cash, but scrip dividends, although far less frequent than before, continue to be distributed. The desirability of stock dividends being discussed elsewhere (p. 129) it is but necessary to state here that they are paid by the companies in order to compensate shareholders for the non-payment of cash dividends, and because it is desirable to conceal profits in order to prevent Legislatures from depriving the owners of railways of legitimate benefits resulting from the increase in value of their properties.

The great amount of discretion directors are endowed with has often afforded reason for regret, and still more frequently was *supposed* to do so; and it cannot be doubted that if all the consequences could have been foreseen a check would have been provided before it was too late; nor can it be questioned that the practice has frequently led to disappointment and tends to promote dishonesty. It leads to disappointment because the public persists in over-estimating the returns upon capital; it constitutes a temptation to dishonesty because the absence of control on the part of shareholders may induce directors to manipulate the markets.

Most companies regularly publish traffic statements at frequent intervals, usually weekly; and from them the public sees the state of business and draws conclusions as to the returns which may be expected upon capital. With regard to the latter, however, it can in the case of a great number of companies form no very correct estimate of coming dividends, simply because it cannot always positively rely upon receiving direct benefits from good years. There are companies — and their number fortunately increases as time goes on — which, because of their sound financial position and their unquestionable integrity, and also with due regard for their own credit, pay dividends at regular intervals and varying as little as possible. To this class belong the Pennsylvania and New York Central, most Vanderbilt lines, and several other companies which have accumulated substantial reserves safeguarding against erratic fluctuations of dividends. But by no means all corporations have succeeded in accumulating reserves providing against emergencies, and hence their dividends possess no great degree of stability, and move up and down with business; and trade and industries are subject to fluctuations more frequent and spasmodic in America than in any other country. A natural result is that with many companies prospective dividends are a matter of the greatest uncertainty, especially because, apart from fluctuations of trade, there are additional causes of considerable deviations. The regularity of dividends is liable to be disturbed by numerous exigencies, such as, for instance, surplus revenue, which otherwise would have gone to shareholders, being unexpectedly required to meet emergencies, to effect betterments, etc.

Whether it is right that such emergencies and outlays, notably the necessity of betterments, should at once affect shareholders, in other words whether they should be paid out of earnings or defrayed by the proceeds from new issues, is a much debated question. The improvement of railroad property is not only desirable because it reduces expenses *pro rata*, increases efficiency and expands business, but it is often absolutely necessary because lines may pass into such a state of deterioration or remain so far behind the times that traffic declines, expenses increase, and profits become an utter impossibility. Whenever improvements are urgently required to maintain the good condition of a property, or desirable in order to increase business, reduce expenses, and enhance profits, there can be no objection to large sums being judiciously spent upon them; on the contrary, such expenditure must needs prove true economy in the end. Whether the funds required for these betterments should, however, be deducted from earnings or provided for by new issues of shares or bonds, is a matter concerning which various views prevail. In theory each method must be of ultimate benefit to the shareholders, but in practice it is difficult to generalize because the constitution of companies varies from one extreme to the other: that which may be good for the Baltimore and Ohio with its small amount of stock may not suit, say, the Reading. And granted that charging betterments to capital may be preferable to charging them to income, the fact that a company's credit is exhausted may effectually prevent it from doing that which would be best, and compel it to do that which is less commendable but more feasible. With regard to the ultimate benefit shareholders must reap from betterments, no matter whether they are paid out of earnings or out of capital, it should be remarked that, since shares change hands frequently, the payment of betterments out of capital is advocated on account of this being the justest method, and because otherwise A may forego a dividend to pay for betterments from which B derives the advantage.

Occasionally it happens, although by no means as frequently as it used to, that a dividend is passed for no other reason than because it suits the speculative schemes of those in control, the comparatively recent occurrence with Missouri Pacific shares being regarded as one of these rare instances. It is in connection with similar discreditable events that the vast discretionary powers of managers really give the public reason for regret; in the majority of other cases which induce the public to regret such powers the cause for complaint is not real, but either misinterpreted or misrepresented.

A company may earn a fair dividend, yet it may or may not distribute one, as the directors decide; and although as a rule self-interest compels them to act honestly, while also their motives on the whole are straightforward, it cannot be denied that temptation to an abuse of power exists, while it is equally certain that not all can resist that temptation. It is within the power of American railroad managers to influence the markets by disappointing general expectations, and wherever such power can be found there must be human beings who will yield to the temptation to use it. I shall not say that many actually do yield; I am positive that such an accusation would be a gross injustice towards a class of men who must be found by everybody who comes in contact with them to possess a degree of integrity such as they are not generally credited with No doubt there are a few, notably connected with minor companies occupying no prominent position, who would never hesitate to declare or pass any dividend calculated to suit their purposes; but emphatically it is not so with the vast majority of railway directors, at least not if the prevailing opinion of prominent American financiers goes for anything. As far as I could ascertain but few Americans incline towards the belief that railway directors as a body create sensations to further their own plans; on the other hand it seems to be generally held that some use "inside" information. They will not purposely create sensations; but if on account of inside information they know that they must do so, they are presumed to speculate upon such knowledge. Even this is bad enough, and in spite of its gradual abolition must have an unwholesome effect upon integrity. But on the whole the vast majority of presidents and directors of to-day are above suspicion, their number increasing rapidly with the general improvement of business morality.

The fact that a few adventurers continue to exist is, however, apt to cause prejudice; and no matter how great the improvement may have been, in England we continue to fix our eyes on the weak spot, and in spite of marvellous changes retain our former prejudices. Once we had every reason for being suspicious and circumspect; but while the reasons have disappeared for by far the greater part, suspicion still remains. With regard to the disappointment caused by American railway dividends two facts cannot be stated with too much stress: firstly, American railroad directors of to-day no longer are as of yore; secondly, when we suspect that frauds are the cause of our disappointment we often forget that our expectations were too high. With regard to most securities, and especially with regard to American railway stock, people are sanguine in their anticipations and suspicious in their disappointment. Expectations are usually too high in America as well as here; only people "over there" are less suspicious, but far more optimistic. What this leads to is evident. For instance, great expectations are universally entertained with regard to the splendid crop of 1891 upon the dividends of 1892; yet it may be taken for granted that results, however good, will remain below anticipations.

CHAPTER XI.

EARNINGS AND EXPENSES.

Every one of the developments, events and conditions to which reference has been made in foregoing pages has an influence upon the revenue of American railroad companies; if they had not it would have been needless to have devoted any space to them. In some instances I have endeavoured to formulate the effect of given causes upon earnings, but on account of the complex nature of the various branches of railway business it was impossible to do this in every case. Nor was it necessary to trace and formulate the exact influence of every new development upon railways; many conditions neutralise and offset each other, and moreover they are of far less importance separately than collectively. What is necessary is not an overwhelming mass of confusing detail which prevents one seeing the forest because there are so many trees, but a bird's-eye view of the effect of all causes put together upon revenue and rentability of American railways as a whole.

There can prevail little doubt as to what figures are most likely to serve our purpose. Mr. Poor, the Interstate Commission, and the Census Office have each collected a mass of valuable statistics, but of these only one kind is suitable for our present purpose. The total net or gross earnings of the entire system, of individual groups, and other matters may be of much interest and illustrate the growth of railways and the prominent part they took and still take in the development of the Republic, but as to their own progress and success as commercial enterprises nothing but statements showing earnings, etc., *per mile* of road can be of the slightest service as an impartial indication.

Before giving such statistics it may be useful to briefly recall the various influences affecting earnings. Some of these were for good, others for evil, and scarcely one has been either without its compensation or disadvantages. The decline in rates led to an increase in the volume of business and to economies by means of marvellous attainments in the art of moving freight cheaply; competition first resulted in a very serious decline in earnings on account of rate wars, but later it begot consolidation, its own cure, and in a similar manner consequences became causes and everything which had a bearing upon railways involved so many changes in various ways and had so many aspects that it would be well-nigh impossible to trace each influence through all its ramifications. The following diagrams, however, show the principal causes affecting the revenue of railways:—

A.—Causes of Decline in Earnings.

1. Injudicious construction.	A. Rate Wars.	Decrease in Earnings.
2. Profits to be made out of construction.		
3. Paralleling.		
4. Disproportion between supply and demand of transportation.		
5. Unequal basis for earnings owing to varying amount of water.		
6. Struggle for supremacy.		
7. Manipulation of Stock Exchanges.		
8. Vigorous competition.		
1. Discriminations.	B. Legislation.	
2. Pools.		
3. Free Passes.		
4. Objections to watering.		
5. Alleged excessive nature of rates.		
1. Free Passes.	C. Waste of Revenue.	
2. Rate Cutting.		
3. Maintenance of scalping system.		
4. Superfluous agents.		
5. Injudicious advertising.		
6. Exacting demands of public.		
7. Loan of Pullman cars.		

B.—Causes of Decrease in Expenses.

1. Leases.	A. Consolidation.	Decrease in Expenses.
2. Traffic agreements.		
3. Traffic associations.		
4. Other means of promoting harmony.		
1. Rapid development of the country.	B. Increase in volume of Business.	
2. Increasing volume of freight.		
3. Increasing travel.		
1. Savings arising from consolidation.	C. Economy in Working.	
2. Decrease of dead weight.		
3. Increased power of locomotive engines.		
4. Increased service got out of rolling stock.		
5. Substitution of steel for iron rails.		
6. Improvements of road bed.		

The effects of the decline in rates and expenses upon earnings is shown by the following:

Comparative Statement showing average earnings per mile on all American Railroads for a number of years.

Year.	Pass. Earnings. $	Freight Earnings. $	Gross Earnings. $	Net Earnings. $	Operating Expenses per mile $	Percentage of net earnings.
1882	1,926	4,824	7,377	2,670	4,707	36·39
1883	1,951	5,092	7,461	2,702	4,759	36·22
1884	1,873	4,404	6,663	2,318	4,355	34·82
1885	1,612	4,219	6,265	2,185	4,180	34·88
1886	1,693	4,379	6,570	2,376	4,194	36·16
1887	1,756	4,649	6,861	2,444	4,417	35·55
1888	1,723	4,379	6,540	2,045	4,495	31·28
1889	1,668	4,333	6,455	2,068	4,387	32·05
1890	1,732	4,686	6,875	2,162	4,713	31·46

On the whole it appears that, after making due allowance for the fluctuations of trade which cause annual receipts to move somewhat erratically, earnings per mile are no better now than they were ten years ago, while they remain considerably below those of earlier periods. The volume of business has been increasing at a more rapid rate than the mileage of railways;[1] but the favourable influence which this indisputable fact would have had upon earnings has been more than offset by the fall in rates, and the inevitable result has been that with an ever increasing traffic net profits per mile have steadily declined, it appears to the extent of about 20 per cent. in eight years. In consequence the rentability of railroads could not but fall in spite of growing business; but at this juncture it should be observed that it

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[1] The subjoined table shows exact proportions:

	1882	1890	Increase per cent
Mileage	95,762	157,976	64·5
Tons of freight moved 1 mile.	39,302 mill.	79,192 mill.	98·4
Number of pass	7,683 „	12,521 „	66·2

declined not in the same ratio as profits per mile, but a little less, a fact explained by the decrease in "capital per mile" which has been an outcome of very economical construction during recent years.[1]

If railways thus fail to derive any advantage from the growth of business, or rather if in spite of such growth they constantly earn less per mile, the investor is likely to ask whether their revenue will continue to grow proportionately smaller in spite of their increasing traffic. To this query I do not hesitate to answer in the negative. The failure to profit by such increase must be attributed to two causes, constant construction and declining rates. I am not prepared to say whether this decline has been stayed, but it is evident that it cannot go much further. It is otherwise with the growth of business, of which we may anticipate a continued expansion for decades to come, and therefore traffic will increase while earnings per ton mile cannot possibly decline very much. The only event which could interfere with the benefits which must necessarily arise from further development of the country would be such an increase of mileage as would keep pace with the growth of business.

The rapid construction of new lines withheld from the older routes the advantages which otherwise would have been inseparable from an increasing amount of freight, for it was by this never-ceasing construction that the disastrous disproportion between supply and demand of transportation was maintained, and that we were disappointed in our expectation that the country would gradually grow up to the railways.

The future remunerativeness of American railways therefore depends chiefly upon the extent of future construction. Whether this construction will be resumed as soon as earnings per mile increase is, of course, a question which cannot be positively answered now, but it does not seem as if reckless construction as it was witnessed after the War, in 1883, and in 1887, will be again indulged in. In recent years the percentage of new mileage constructed each year has shown a tendency to grow smaller and smaller, and since 1887, the year of the latest "craze," the annual increase has never amounted to more than four per cent. — still a formidable percentage, but a proportion decidedly below the increase in the productive capacity of the nation. If construction is carried on at no faster pace, business will increase quicker than railways; but this "if" is significant, for we must not expect that no more railway booms will be witnessed. As long as booming is a business in which every good American revels and delights we shall see railway crazes; and whenever circumstances are favourable, railways will be "boomed for all they are worth." But with all that it is not likely that we shall ever again witness such crazes as in the golden days of yore, when a foolish public supplied funds without stint. The construction of a railway is not now as profitable as it used to be, since the tricks of the trade are universally known and the trade itself disapproved of; funds are no longer found as readily as they once were, and in addition the giant systems of to-day are not so easily cowed or coyed into "buying out" as were the petty companies of the seventies. A parallel line is no longer invariably valuable to its owner, and instead of making its "boss" wealthy it may bankrupt him. Construction is less profitable and more risky now than it was some time ago, and for that reason it does not seem probable that it will be again indulged in to an extent which will withhold from the railways the long anticipated benefits accruing from growth of the country. It is not likely that earnings "above 10 per cent. of cost," in other words earnings as they should be, will continue to tempt the construction of rival lines.

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[1] The cost of road and equipment fell from $65,059 per mile in 1885 to $58,763 in 1890. It may be assumed that, after making due allowance for the issue of "water," roads of recent construction have cost not more than an average of $30,000 per mile.

We must therefore assume that earnings per mile in all probability will improve rather than the reverse; but this assumption answers but one half of the question: What will be the future earnings of American railroads? Before we can give a full reply to this query we must see how expenses move.

The above table shows that net earnings in their proportion to gross fell from 36·39 per cent. in 1882 to 31·46 in 1890; in other words, expenses rose from 63·61 to 69·54 per cent. of earnings. As we have shown in a preceding chapter, expenses *per se* constantly fall; and the inference we must draw from the apparently contradictory nature of the fact and the figure is that expenses rose not in themselves, but only in their proportion to the decline in earnings. The table on p. 158 indicates that operating expenditure was no larger in 1890 than in 1882, although there was a much larger traffic; and in most intervening years it was even smaller, although traffic grew at the average rate of about 2 per cent. per annum.

A considerable reduction in expenses has therefore taken place, and, as we have seen before, this has been a result of technical improvements. These have worked wonders for railways, nay, were salvation to the entire interest, since but for them it would have been and would still be an utter impossibility to carry on railway business at a profit.

There is in the United States no railway which has reduced its expenses by technical improvements to a greater extent than the Lake Shore; and to demonstrate the downward course of working expenditure I quote the following figures from the 21st Annual Report of that well-managed company:—

Year.	*Earnings per mile of road.*	*Expenses per mile of road.*	*Net earn. per mile of road.*	*Rate per ton per mile.*
	$	$	$	c.
1870.	13,363	8,201	5,075	1.50
1875.	12,284	8,963	3,321	1.01
1880.	15,922	8,844	7,078	0.75
1885.	10,545	6,929	3,616	0.56
1890.	14,437	9,839	3,598	0.63

In twenty years, therefore, expenses on this railway only rose from $8,261 to $9,839 per mile, in spite of the movement of freight having grown to 250 per cent. above its former proportions; and owing to the remarkable reduction in the cost of moving its freight the company makes approximately the same profit per mile now, with a rate of 0.626c., as it did fifteen years ago, when it received 1 c. per ton-mile. Its operating expenses have shrunk to 0.416c. per ton-mile, and this has been possible because the line has one of the most perfect roadbeds to be found in the United States. Other railways do not move their freight as cheaply; the Wabash, for instance, in 1891 had expenses amounting to 0.563c. per ton-mile, and vast as this discrepancy is it is entirely accounted for by the difference between the physical condition of the two roads, the geographical situation of the Wabash being as good as that of the Lake Shore, and perhaps better.

We see from this that expenses can be considerably reduced by excellence of roadbed, and in connection with our inquiry into the probability of a decrease in operating expenditure this fact is of great moment. Improvements are effected everywhere as fast and as far as finances permit; and my comparison between the Lake Shore and the Wabash, apart from showing the great value of betterments, unmistakably points to the likelihood of a further reduction in operating expenditure per mile of road. The great differences existing between the technical perfections of one road and another are gradually effaced because all inferior roads, recognizing the paramount importance of such perfections, introduce them as fast as circumstances permit.

Earning and revenue statements are frequently issued by most companies, and on the whole this affords reason for satisfaction, since it keeps the public well informed concerning the business of the more important lines. Yet the fact should not be overlooked that such statements are very apt to lead to wrong deductions. Gross earnings may be small, but net revenue excellent, and vice versa. At the same time revenue may be good but returns upon capital may be curtailed by unforseen expenses, or the opposite may happen, and in addition there are so many peculiarities pertaining to every railway and its traffic statements that their meaning in Wall Street as well as in London is not realised except by a very few persons possessing an exceptional knowledge of the various lines. This is the reason why most statements fail to have any but a transitory influence upon markets; as a rule they are so much misinterpreted that their effect upon the market, an effect which rarely would be observed but for the fallacious deductions of the uninitiated, rarely lasts beyond a day.

Traffic statements are of importance to speculators, and this is why they are not unfrequently manipulated by these who "pull the strings." To the *bona fide* investor isolated statements are of small importance; they indicate very little, and it is only in a series that he can sometimes see the shadows which coming events cast ahead.

With regard to earnings and expenses it does not seem advisable to enter into generalisations; companies, like individuals, differ in earning power and also in spending propensities. Some do nicely with a moderate income and others, notably those burdened with debts contracted in their youth, find it difficult to make both ends meet in spite of a very handsome revenue. A few understand the art of living according to income; many have not learned this yet, and some act unwisely to keep up appearances. Under these circumstances it is difficult to generalise. Yet I will make a few cursory remarks which apply to most railways.

As regards earnings, their sources vary in different parts of the country. In the Eastern and Central States where competition is keen and the movement of freights large, we find low rates; in the Far West, where there are neither many railways nor many shippers, they are very high. By way of showing the contrast I will mention that in the East the average rate does not exceed 0.82c., while in the Pacific States 1.58c. per ton-mile is charged on the average. On most railways earnings vary according to months. In the agricultural states they are heaviest in October and November; in the South, notably in the cotton country, traffic is largest in September, October, November, and January. Coal and iron traffic varies according to the state of trade, the former being also greatly influenced by mild or severe winters, which also tell upon the shipment of lumber. Rocky Mountain mining depends much upon the price of silver, and hence cheap silver is detrimental to systems in that region. It is so evident that good crops influence railway business that no attention need be called to that fact, but it may be useful to remark that while an occasional boom temporarily benefits railways of a particular region, the dulness always following in its wake brings about a reaction.

As regards expenses, the heavier traffic is the lower they will be *pro rata*. In the East they are lowest, owing, firstly, to the better condition of railways and rolling stock, secondly because of comparative cheapness of fuel and labour, and thirdly on account of there being usually freight both ways. In the West, especially beyond the Rocky Mountains, fuel and labour are dear, lines bad, and many cars are "loaded back empty." Expenses are at their minimum with "low" freights because these are hauled over long distances and can be despatched in full train loads, while they need not be conveyed at great speed. Corn, lumber, cotton and coals, particularly the latter, can be carried cheaper than anything else, especially if the "direction of trade" is down grade, as with minerals it mostly is. The question whether there are return freights or not is one of the most vital importance; and in order to get such freights railways will frequently make very low rates, since almost everything they get is profit.

Expenses can sometimes be cut down to an amazing extent. After costly improvements they usually diminish, but if need be they can be made to shrink by suspending small betterments, by discharging employees, and by other devices. Of course such reductions are of too clumsy a nature to deceive in the long run; but they serve their purpose for the time being — one more reason to be cautious with traffic statements. Earnings, too, can be padded in various ways, especially if great shippers pull the wires. I have been told that some great Chicago "packers" who are behind a well-known Northwestern system have it in their power to raise its revenue to the extent of $200,000 a month by directing their freights over its lines. All this neither enhances the value of traffic statements, nor that of the comments based thereon by people who cannot be "in the know."

CHAPTER XII.

AMERICAN RAILROAD SECURITIES AS INVESTMENTS.

To arrive at definite conclusions concerning the value of American railroad securities as investments it will be necessary to summarize the principal facts and deductions which have been presented to the reader of the foregoing pages. No doubt the latter has noted that in almost every respect great changes for the better have taken place, and we may therefore well start with the proposition that progress and amelioration are the great features of the American railroad system. In some respects improvements have been more pronounced than in others, but improvement there is everywhere.

The relations with the people and the *entente* between railways mutually are much better now than they ever were before, and the intercourse between the corporations and their creditors or shareholders especially has undergone most salutary changes. The era of grievances against the railroads of the Republic has passed, or at least these grievances are gradually disappearing; and it is well that this should be the case, because a self-governing people like the Americans could inflict no end of injury by legislation if irritated by gross injustices, and perhaps the struggle between the nation and the railways might have ended with State purchase if the latter had not mended their ways when it was still time. As matters stand, the threatening attitude which six or seven years ago caused many prominent railroad men to look forward with a good deal of apprehension had wholesome effects for all concerned; like a thunderstorm, it cleared the atmosphere.

It taught the railways that the nation would bear no longer those injustices to which it rightly objected; it taught the nation that adverse railway laws are to its own detriment; and the result of this lesson was that laws were relaxed by the people and that the railways discontinued the worst of their malpractices. Conditions are by no means ideal yet; railways continue to give some reasons for complaint, and a number of laws might be repealed with advantage to both parties. But gradual concessions are made on either side, and whatever strain there is will be eventually relieved unless new excitement is caused. Such agitation may result from the attempted creation of monopolies, pools, or anything likely to be interpreted as a tyranny; for these attempts, even if they inflict no real harm, may be conflicting with national tendencies, and may revive ill-feeling. This is the reason why moves like the recently created Coal combination should be disapproved of; they may involve the entire railway interest in new difficulties. It may be well to remember that only recently both the Republican and the Democratic National Conventions cast a vivid light upon the national dislike of such combinations by unanimously expressing their disapproval of the "tyranny imposed by trusts, monopolies, and the like."

Among railways themselves more friendly relations have taken the place of the old hostility, and love of war has been driven back by a sincere desire for peace and harmony. A keen competition and rate wars have reduced tariffs to a phenomenal degree; but consolidations, amalgamations and traffic associations have stayed the decline, and wonderful technical improvements have reduced expenses to such an extent that profitable working is still possible. There is no reason to anticipate a further serious fall in rates; and unless the expenditure of reasonable sums on betterments be prevented, such considerable reductions of operating expenses must be made that earnings per unit of freight will increase, while in addition traffic per mile will continue to grow.

Such growth would be prevented by a resumption of reckless construction, but for reasons stated previously a "craze" is unlikely to recur. Profits, however, must always depend upon efficiency, and anything preventing technical perfection is therefore to the detriment of railroad properties. Constant and judicious betterments are essential; every railway that has achieved greatness succeeded by constantly aiming at perfection. To keep abreast of the times is the only sound policy of an American railroad. Fortunately most companies act upon this principle, and the American bids fair to become the standard railway of the world. It advances by leaps and bounds, while those of other countries stand still in the firm but erroneous belief that they have reached the goal of perfection.

Perhaps in no respect have changes been so healthy as in the relations between the corporations and their shareholders. The era of "railroad rascals" has gone, and men of integrity are filling the places they have vacated. The American railway has ceased to be chiefly a gambling implement for Wall Street, and properties are no longer wrecked for speculative purposes. Swindles, "deals" and "steals" are no longer heard of, and reorganisations and receivers are much less frequent now than ever before. Though cliques still rule they no longer tyrannize, and the great improvement in business morality, an improvement attending that rapid solidification of business upon which the country may well congratulate itself, has purified business methods and propagated honest and healthy financing. Arbitrary and fraudulent issues of shares and bonds are unheard of now-a-days, and construction companies, dishonest leases, etc., belong to the past. Greater attention is ever being paid to the stockholders and their wishes, and unjust treatment has become very rare, although occasionally the public believes itself wronged. The investor is kept better informed than formerly, and reliable official statements are issued frequently and regularly. Matters of policy are discussed at length in annual reports, and the latter are so exhaustive that they might serve as an example for those issued by English railways. Publicity is aimed at and promoted; it is no longer feared, and this, perhaps, is the strongest proof of the rapid strides railways are making towards ideal conditions. A few dark spots, do, of course, remain, one of these being the arbitrary power most directors have over expenditure and dividends, and the abuses this may lead to; but such abuses are becoming very rare, and when a few "gentlemen" of the old school who conduct railway business upon old "principles" are gone, they will no longer be heard of. In short, progress is such as cannot have been anticipated ten years ago. There are companies now which in every respect are as good as the best English concerns, emphatically just as good in every respect; and those who do not yet belong to that class are trying to reach it at the earliest possible moment.

On the whole, then, there has been a great improvement, and, which says more, it continues. This has, of course, enhanced the value of American securities as investments, and there can be little doubt that this value will rise further still; returns, perhaps, may not advance much, but their safety and regularity surely will. The entire Republic, even the "Wild West," is rapidly establishing its business on a basis as sound as that underlying the economic life of Europe. Of course there must be severe fluctuations of trade for some time to come, and there will be disappointment; but fast progress is being made and will continue to be made, and this progress must needs result in American railroads reaching a still higher standard. That their status has improved nobody who contrasts the infrequency of heavy fluctuations, sensations, and disappointments to-day with the exciting occurrences of only a dozen years ago will deny.

There are a few other matters of which it is desirable to speak before concluding this chapter, because they may be presumed to be of some interest to speculators and investors. As regards the former it is not my intention to enter into many details; concerning the latter the discussion must be a little more than cursory.

The changes in the relations between the railways and Wall Street, to which I referred before, have, of course, been of great importance to the investor and the speculator alike. The abstinence of managers from speculating on a vast scale, and the abolition of the once universal practice of making money in Wall Street by manipulation of the property, regardless of the interest of its owners, can have exercised none but a wholesome influence upon the affairs of the great corporations. Yet these have not been the only changes which influenced "the Street." The speculation of hundreds of petty managers has been replaced by the vast operations of a few "bosses," and instead of being ruled by thousands of small powers Wall Street has come under the influence of a few great operators, each of whom is blindly followed and supported by a host of nonentities. This change in the tactics of Wall Street has had far-reaching effects upon speculation in American securities. Upon the *bona fide* investor the new customs of "the Street" have had no great adverse influence; he benefited by the abolition of old rascalities perpetrated at the cost of his property, but the new mode of speculation had few disadvantages as far as he was concerned. With the speculator it was otherwise. Instead of hundreds of minor powers whose actions frequently afforded a clue to their intentions and who often took him into their confidence, a few men gained control of the market and ruled its destinies in an unaccountable way. Whereas the tactics of Wall Street had at least general and comprehensible characteristics in bygone years, they now have none; and the speculator is at the mercy of men whose intentions are enshrouded in mystery, whose power is almost unlimited, and whose tactics are rarely understood. So great is the power of a few men that they have an almost absolute control over the prices of speculative stocks, and can move them up and down almost at will. Formerly actual value regulated quotations, and to alter the quotation of shares it was frequently necessary to change the worth of a property first. But to-day Wall Street takes little account of the actual value of properties. There can be "booms" when railway business is slack, and in prosperous times dulness may prevail; and this well-known fact clearly proves that actual value has little to do with the price of most shares, and that the real condition of railway business is of little use as a guide to speculators.

The speculator cannot have recognised this last fact with great satisfaction. As it was the complex nature of railway business in the United States rendered discernment of its true character and immediate prospects — and such discernment after all is the basis of speculation — a matter of great difficulty. To judge of the merits of vast systems traversing regions with the most varied characteristics and running from one extreme end of the country to another, to estimate their earnings under varying conditions of trade, has at all times been difficult; but even those who can do this no longer gain any advantage from their knowledge. The great operators who make or mar "markets" can fall back upon resources that will set at bay any natural influence and baffle any amount of knowledge. The intentions of these great wire-pullers the ordinary speculator cannot divine; even the American, with his innate tendency towards speculation, has clearly recognised this. Were it not for the fact that in the human breast, and especially with Americans, the hope of gain always proves stronger than the fear of loss, Wall Street would have no outside support whatever. As matters stand it retains some, but it cannot be questioned that speculation in railway stock has lost much of its popularity as far as America is concerned, and those who abandon the American principle "not to speculate in what you don't understand" speculate in a modest way, and in very much the same manner as that in which they buy tickets in the Louisiana Lottery: they do it secretly, and although they hope to get a prize they know of the great number of noughts. Speculation in the United States, in spite of its remarkable development and its hold upon the people, no longer favours Wall Street to such a marked extent as before, and chiefly seeks other fields than railways. As long ago as 1870 Mr. W. W. Fowler wrote his "*Ten Years in Wall Street*" as a warning against speculation in railways, and to show that it must end in loss; and whereas all competent judges condemn speculation in general, that in American railways must be warned against in particular. This is the reason why Americans themselves usually give it a wide berth.

To Europeans, speculation in American railway stocks can be recommended even less than to the inhabitants of the Great Republic, and for the reason that we have to contend with additional disadvantages. We lack the knowledge both of American railways and of the methods of Wall Street, and we cannot correctly interpret many facts which afford some guidance to the American operator. In addition we have to divine the intentions of Wall Street towards us, perhaps the most difficult matter of all.

With speculative investment it is otherwise than with speculation pure and simple. American railway stock fluctuates sharply. Booms and breaks are frequent, and it is of these that advantage can be taken, especially of the latter. Experience shows that the market is bound to right itself after a time, and those who invest judiciously at low prices and avoid going beyond their powers find in American railway shares a class of stock offering great opportunities for gain. The following table gives some details with regard to the extent to which prices vary:—

Table showing the difference between the highest and lowest prices of nine descriptions of American railroad shares during each of the six years ending with 1891.—London quotations.

	1891	1890	1889	1888	1887	1886
Central Pacific	8 1/4	11 1/8	3 1/2	10 1/4	17 1/8	13 1/2
St. Paul	32 1/4	36 1/2	14 3/8	18 7/8	25 1/4	17 3/8
Denver & Rio Grande	7 1/4	8 3/4	3 3/8	8 1/2	12 5/8	15 1/4
Lake Shore	17 1/4	11 1/8	9 1/2	18 1/2	9 1/4	26 1/4
New York Central	22 5/8	15 3/4	5 3/8	8 3/8	13 5/8	19 1/4
Norfolk & Western	12 1/4	23	15 1/8	16 7/8	20 7/8	34 1/2
Pennsylvania (2 × $50)	16 3/4	20 1/2	10	10	14 1/4	17 3/4
Reading (2 × $50)	18 1/2	21 1/4	13 1/4	11 7/8	39 1/2	30 1/4
Wabash Preferred	17 1/4	11 7/8	10 1/8	8 3/4	14 7/8	26 5/8

It is evident that shares do not commend themselves to the investor as highly as bonds. Broadly speaking their returns are irregular, and they frequently cannot be sold except at a loss because they possess little stability. Owing to the variations in the state of trade, to the exigencies that may arise, and to the discretion vested in directors, the yield they give is uncertain; and in consequence of the precedence they must yield to bonds, the funds out of which their returns are paid move within a narrow margin. They are the outposts which are the first to meet all attacks, and for that reason it would be impossible to class the great majority of American railroad shares among commendable investments, no matter what they may be to the speculative investor.

With bonds it is entirely different. They are protected by the outposts just referred to, and being, as is well known, not owners of the property, but merely creditors of railway companies, bondholders have very little in common with shareholders, and bonds very little with shares. Bonds are infinitely superior, and investors, both in America and in Europe, have not been slow to realise this; the obligations of American railway companies have become favourites with a vast class of investors in the States, England, Holland, Germany and France.

In the main, money should be invested in funds possessing four cardinal qualities. Safety is the first and foremost of these; in the second place they should pay a good and regular return upon capital; thirdly, they must be marketable at all times without difficulty and without severe loss; and, fourthly, they should possess stability, or better still, their value should be progressive. If, therefore, we wish to estimate the value of American railway securities as investments we must see whether they answer these four requirements.

First, as to safety. It is not difficult to find data showing the degree in which they possess this quality — of course in general; it need scarcely be said that the present remarks cannot be anything but general observations. On January 1st, 1891, the latest date for which statistics are available, there were in the United States 170,601 miles of railway. Their total funded debt, according to *Poor's Manual*, amounted to $5,235,000,000 or $30,687 per mile, a price equal to what is generally assumed to be the average real cost of American railroads. But as we have previously shown, the total bonded debt is really considerably below Mr. H. V. Poor's aggregate on account of the duplication of stock (p. 137), and in reality railway property is probably not mortgaged beyond the extent of $24,000 per mile. Hence the property upon which bonds are issued leaves an ample margin for depreciation, however little reason to anticipate the latter there may be; and from this it follows that bonds, broadly speaking, are amply secured.

A desirable investment should also pay a good and regular return upon its cost. On the average American railways, according to Mr. Poor, pay 4·25 per cent. on their bonded debt, but on account of Mr. Poor's divisor being too large, as we have pointed out before, their real returns are considerably in excess of this ratio. If we assume railway property to be actually mortgaged to the extent of three-fourths of its apparent bonded debt—a low estimate—bonds give an average annual return of 5·67 per cent., an estimate tallying with the table given on p. 138, according to which some high class descriptions quoted in Europe pay somewhere about 5½ per cent. upon their face value. This average must be called exceptionally good, and its regularity leaves nothing to be desired, there being very few mortgage bonds indeed the returns from which are irregular or uncertain.

The third requirement is also fulfilled. Bonds are marketable at all times, and, as is shown by the following tables, the quotation of the better class of bonds is subject to changes exceedingly insignificant both in themselves and in comparison with the fluctuations to which the price of most shares is liable.

Table showing the average price of various American Railroad Bonds dealt in in London for each of the five years ending with 1891.—New York quotations.

	1891	1890	1889	1888	1887
Baltim. & Ohio 5 pct. Gold	105 1/4	107 1/8	109	108	106 1/4
St. Paul First Mo. 7 pct. Gold......	123 1/4	124 1/4	125 1/2	125 1/2	128 1/2
Ch. & Northw. 5 pct. Sink. fund...	108 1/4	115 1/2	109 1/2	108 1/2	108
Illinois Centr. 4 pct. Gold.	102 1/2	104 1/2	107 1/2	106 1/4	107 1/4
New York Central 7 pct. 1st........	126	129	135	134 7/8	134 3/4
Erie 7 pct. 1st. Consol............	135	134 1/2	135 1/4	135 1/4	133
Pennsylvania 4 1/2 pct	105	107 1/2	107 1/2	107 1/2	105 1/2

Table showing the difference between the highest and lowest quotations of various American Railroad Bonds dealt in in London for each of the five years ending with 1891.—New York quotations.

	1891	1890	1889	1888	1887
Baltim. & Ohio 5 pct. Gold.........	6 1/2	5 1/4	4	6	12 1/2
St. Paul 1st. Mo. 7 pct. Gold.......	8 1/2	4 1/2	3	5	7
Ch. & Northw. 5 pct Sink Fund...	6 1/2	3	5	5	5
Illinois Central 4 pct...............	5	5	5	3 1/2	3 1/2
New York Central, 7 pct 1st........	5	6	5	4 1/4	5 1/2
Erie, 7 pct. 1st Consol..............	5	8	5 1/2	4 1/2	8
Pennsylvania 41/2 pct..............	6	5	4	4	4

These tables show that the price of first-class bonds is remarkably stationary. As regards the value of bonds usually classed lower, it is true that fluctuations are wider, and natural that this should be the case; but there has been in most instances a decided rise in prices during the past five or six years, and their credit has undergone a considerable change for the better. Nor can this be wondered at. In the first place outside influences have during the past few years been decidedly in favour of securities yielding good returns, but apart from favourable extraneous influences American bonds benefitted by an amelioration of their intrinsic worth. The value of bonds, expecially of those not as yet ranking among the highest class of investments, has risen rapidly, and this rise is fully warranted by circumstances. There has been an upward movement in the average value of railroads; improvements have been effected, and earning powers, comparatively speaking, enhanced. Honest management has superseded a *regime* of rascals; and although the country has by no means reached maturity, while business is as yet not entirely weaned from some doubtful practices, there is a vast improvement in commercial morality, and a process of solidification has set in which it is very gratifying to observe. Beyond these favourable changes there is the auspicious fact that the rapid growth of the country must react favourably upon railway business and render the properties more productive and therefore more valuable as time goes on, unless reckless construction is resumed, an event which may be regarded as very unlikely. For these reasons it can cause no wonder that we entertain a higher opinion of American railroad bonds — and especially of the lower grades — now than we ever did before.

To what extent their value has appreciated has been shown by previous tables, and is further manifested by the fact that most bonds of responsible companies are quoted above par, whereas they were sold below. Eleven leading companies, already referred to, pay an average interest of 5·54 per cent. on their entire bonded debt; but the public buys their securities so that they yield less than 5 per cent.; yet this figure is so high in comparison with the net returns of other investments that the question arises whether the credit of American railroad securities does not remain at a level lower than that which might be properly conceded to it in England.

The *Investors' Review* for May contains a valuable appendix showing the net returns upon thousands of investments, and by kind permission of its editor I have compiled from it a table, showing the average net returns paid by various classes of railway securities quoted in London, which enables us to see what credit American railroad securities enjoy in comparison with other railway stocks quoted in our market.

Statement showing the comparative returns upon investment paid by 532 descriptions of railway stock according to London quotations of April 15th, 1892. (Compiled from the Investors' Review.)

RAILWAYS.	*Less than* 3 *p. cent.*	3 *to* 3½ *p. cent.*	3½ *to* 4 *p. cent.*	4 *to* 4½ *p. cent.*	4½ *to* 5 *p. cent.*	5 *to* 5½ *p. cent.*	5½ *to* 6 *p. cent.*	6 *to* 6½ *p. cent.*	*Above* 6½ *p. cent.*
British (all descript.)	6	185	45	11	3	1	—	—	—
Indian „	—	17	7	3	1	—	—	—	—
British Possessions „	—	—	5	20	5	—	4	4	—
American (bonds) ...	—	1	15	39	42	25	10	8	1
South American.....	—	—	1	4	13	10	—	6	—
French and Belgian..	—	3	3	—	—	—	—	—	—
Balkan States	—	—	—	—	4	2	2	—	—
Other Continental ..	—	—	—	3	6	6	3	—	8
Total...	6	206	76	80	64	44	19	18	9

This table indicates that the vast majority of English railway stocks *of all descriptions* are deemed worthy of a credit ranging between 3 and 4 per cent., but approaching the lower of the two figures, and that it is the same with Indian railways. French and Belgian railways are evidently thought just as well of; colonial lines mostly pay between 4½ and 5 per cent., the bulk of American *bonds* are estimated to deserve a credit of between 4 and 5½ per cent., the same figure as sundry descriptions of South American and Balkan States companies, usually enjoying Government guarantee. It is especially this last fact which seems to denote that their credit is underestimated; and if we examine facts more closely this supposition appears to be confirmed.

According to the periodical just quoted (May number, p. 342) there are but twelve descriptions of American bonds, issued by six companies, returning between 3¾ and 4 per cent. on the net investment. They are the very best bonds issued or guaranteed by the very best companies, namely the Pennsylvania, New York Central, Illinois Central, Boston & Maine and Chicago, Milwaukee and St. Paul RR. Companies. They have prior rights upon properties all of which except one are fully equal to the average English railroad, say the London and South Western, and never since they came into existence have any of these bonds failed to pay their interest regularly, nor is there any prospect of their ever doing so. To all intents and purposes, therefore, they are as safe an investment as any English railway share, and perhaps I might say safer, because there are people to whose judgment great value may be attached who maintain that sooner or later the imperative demand for lower rates will prevent many of our extravagant English companies from paying a dividend at all. Yet it is evidently thought that these American *bonds* should pay £0 15 0 per cent. more than the average English railway stock. With other securities, paying a higher net return, the contrast is still more marked. For example, Baltimore and Ohio Consolidated 5 per cent. Mortgage Bonds quote 115, so that they return £4 6 10 net, and Louisville and Nashville 6 per cent. General Mortgage Bonds 120, in consequence whereof their credit is no better than £4 16 11 per cent. There is no guaranteed stock of any English railway which yields so much net, and there are but three kinds of ordinary shares (Belfast & County Down, Highland, and Midland Great Western of Ireland) whose credit is estimated at so low a figure as that of the Louisville and Nashville bonds just referred to. This is so altogether out of accord with intrinsic merits that it is absolutely unnecessary to call attention to it. Among others there were in April last 42 American bonds quoted n London all of which pay their interest regularly, yet give as large a return upon net investment as, and therefore in our estimate of their credit are classed with, a miscellaneous lot of second-class foreign railway stock — Turkish, Argentine, Central American, and so forth — which can no more rank with St. Paul, Northwestern, or Burlington bonds than can the dilapidated Ottoman Empire or a turbulent Central American Republic with the United States. Similar anomalies are so striking that to enlarge upon them is absolutely superfluous. The most cursory comparison with other classes of securities must clearly show that the credit of American bonds is as a rule, from ½ to 1 per cent. below the point to which they are fairly entitled.

Having called attention to the fact that American bonds do not enjoy that amount of credit which we might reasonably accede to them, I shall presumably be expected to state why they have no more. Two reasons suggest themselves. In the first place we underestimate their safety as a result of the lack of confidence which remains from the days when we were duped, and to the exaggerated nature of which we have referred before. Secondly, the fact that the price of bonds is regulated in New York rather than in London influences their quotation. American securities are mostly held in America, and in America people are not satisfied with the low interest upon a safe investment that is acceptable to us. Houses and mortgages upon real estate often yield eight per cent., and mostly between six and seven; and the fact that money in America has a greater value than here cannot but have an influence upon the price of investments the value of which, broadly speaking, is fixed by Americans.

This last circumstance places the European investor at a great advantage, which, to some extent, seems to be realised; at least our holdings increase steadily. But it does not appear that the advantages this class of securities offers are understood to their full extent; if they were we should probably seize them with still greater avidity than we do now. There are at the time of writing 39 descriptions of American bonds paying between 4 and 4½ per cent. upon net outlay, which, as a safe investment, find no parallel among any other stock quoted at corresponding prices. To have the same return upon his capital an investor would, if he were to limit himself to railway stock, have no other choice than a very limited assortment of South American or Turkish railway "securities" or shares of Colonial or Home railways of very doubtful rank. Upon an investment in British railway stock possessing the same essential qualities, the return would be at least ½, and probably 1 per cent. less.

PART IV.

THE EASTERN GROUP.

CHAPTER XIII.

RAILWAYS IN THE EASTERN STATES.

I have deemed it convenient to divide the railway system of the United States into six groups: Eastern, Central, Southern, Northwestern, Southwestern, and Pacific, which will be successively dealt with. This division somewhat closely follows that adopted by the U. S. Census office and the Interstate Commerce Commission, with which it is in every respect identical, except in so far as I have combined several of the ten groups into which these official bodies divide the country in order to reduce their number.

Of these groups that which we call the Eastern is by far the most important, and for this as well as for other reasons of a more practical nature we shall give it precedence. The States in which these lines either lie or centre are eleven in number, and embrace that part of the country bordered in the West by the State of Ohio, in the South by the two Virginias, in the East by the Atlantic Coast, and in the North by Lake Ontario and Canada. The eleven States lying within this section and enumerated in the first of the subjoined tables cover an area of 183,000 square miles, or one-twentieth of the total area of the Great Republic; and their importance may be inferred from the fact that they contain three-tenths of the population of the entire country, a similar proportion of its railways, and nearly one-half of its wealth.

Table showing Area, Population, and Assessed Valuation of the eleven Eastern States (New England and Middle States) Census of 1890.

	Area Sq. Miles.	*Population 1890*	*Assessed Valuation (Millions of Dollars.)*
Maine	33,340	661,000	309 1
Vermont	9,565	332,000	161,5
New Hampshire	9,305	376,000	252,7
Massachusetts	8 315	2 238 000	2,154,0
Rhode Island	1,250	345,000	321,7
Connecticut	4,990	746,000	358,9
New York	49,170	5,998,000	3,775,3
New Jersey	7,815	1,445,000	688,3
Pennsylvania	45,215	5,258,000	2 592,8
Delaware	2,050	168,000	74,1
Maryland (including Distr. of Columb.)	12,210	1,272,000	635,4
Total	182,925	18,839,000	11,323,7

Table showing relative importance of the Eastern States as compared with that of the entire Union.

	Eastern States.	*United States.*
Area (Sq. miles)	182,925	3,602,000
Population	18,839,000	62,622,000
Assessed Valuation	$11,323,700,000	$24,249,600,000
Miles of Railway	26,485	163,420
Capital of RR. Companies	$2,756 mill.	$9,745 mill.
Earnings of RR.	372 „	1,068 „
Passengers carried one mile	5,265 „	12,521 „
Tons freight carried one mile	28,551 „	79,198 „

For the great comparative importance of this section, which is illustrated by the foregoing statistics, there are several reasons. In the first place this was the earliest settled part of the United States; secondly, the Eastern coast is very important on account of its proximity to Europe; in the third place this region is fertile, has a salubrious climate, and abounds with minerals, especially coal and iron. These advantages rendered the East the centre of trade, industries, finance, population and wealth; and although by no means as densely peopled as Europe, it has reached a very advanced stage of cultivation.

The State of Pennsylvania, which produces enormous quantities of anthracite and bituminous coal, iron, petroleum, etc., is no doubt the most important among Eastern States because of its vast mineral wealth and the great industries this has given birth to. Pittsburgh, (pop. 238,000) situated near its Western boundary, where soft coal, iron, petroleum and natural gas abound, is the American Birmingham; Philadelphia, its greatest harbour, (pop. 1,100,000) is not only a flourishing seaport, but at the same time a great financial centre and the most important manufacturing city of the country, its manufactures now representing an annual value of $800,000,000. In the Northeastern part of the State we find the great anthracite coal fields, which produce 37,000,000 tons of hard coal annually, the soft coal mines 30,000,000 tons, and the iron mines yielding metal equal in volume to three-fourths of the total annual output of the United Kingdom. 1,200,000 people devote themselves to mining and industries, agriculture, and truck farming, which yield $200,000,000 annually.

The State of New York, although not of such great industrial importance as Pennsylvania, exceeds it in population and wealth. Mr. Chauncey M. Depew, her most prominent citizen, says she sustains over 1,000 newspapers and periodicals, has spent $80,000,000 on church property, pays $12,000,000 annually for education, and has $600,000,000 in her savings banks. Annual agricultural produce represents a value of $160,000,000, and manufactures $1,056,000,000; the latter thrive in many towns, not the least in New York City; yet trade is of greater importance than industries. New York with its population of 1,750,000, not including the suburbs (Brooklyn, Jersey City, etc., with 1,250,000) as is well known is the great commercial and financial centre of the country, commanding three-fifths of the foreign trade of the nation, and a great part of its home trade. It has 11,000 manufactories producing articles to the value of $600,000,000, and consisting chiefly of "dry goods," 90,000,000 bushels of cereals are shipped from its harbour annually, and its docks are by far the greatest in the Western hemisphere. The annual bank clearing amounts to $33,000,000,000 and its Stock, Produce, Cotton and other exchanges have more members than the Exchanges of London. Next in importance to New York ranks Buffalo, situated on the head of Lake Erie; being the easternmost lake port and a prominent railroad-centre, this town fills a very important place in its intercourse with the West. Its population reaches nearly 300,000, and its trade in cereals and lumber, as well as its manufactures, is so important that Buffalo is the second in rank among the cities of the "Empire State." In the Northern part of the State lie Rochester, Syracuse, and numerous other manufacturing towns, and in the centre, situated on the Hudson, we find its handsome capital, Albany, (pop. 110,000).

Maryland is a great tobacco State, and Baltimore, with a population approaching 450,000, another important commercial centre and seaport, its trade being chiefly with the rapidly developing South and with the West. The State of New Jersey also contains great industrial centres like Newark and Trenton, but is mostly dependent upon agriculture, notably truck farming. Delaware is still more agricultural than New Jersey, but so exceedingly small that its resources play no important *rôle*.

No part of the United States is as important in comparison to its size as the New England States, which, by the way, are the home of the real "Yankee," a name which abroad is wrongly bestowed upon all Americans alike. Maine, Vermont and New Hampshire hardly supersede New York in any respect, but Massachusetts, Rhode Island and Connecticut are noted for the magnitude of their trade *per capita*, and especially of their industries. Without any great natural advantages the shrewd inhabitants of this small section have succeeded in securing for their home a unique place among the American States. The wool of California and the hides of the Western plains, the cotton of the South and the coals of Pennsylvania, the minerals of the Alleghany Mountains and the copper mined on the shores of Lake Superior are brought to New England, to be converted from raw materials into thousands of articles by the aid of those unique inventions and patented processes which have made American inventive genius famous all over the world. New England is emphatically industrial, and the fact that her enterprising sons have gone to all parts of the country to develop has it no doubt been the origin and still is the backbone of those widespread commercial relations between the beehive east of the Hudson and all other parts of the Republic which have rendered New England a focus of trade, industries, and wealth, that has no equal on the American Continent, and perhaps no superior in Europe.

The commercial and industrial prominence of the East naturally caused a rapid development of transportation business, and there being neither important canals nor rivers railways became the prominent means of conveyance. The comparative density of her population created a complete network of local roads; her important commercial relations with the South and West built the great trunk lines which ultimately lead to the remotest township of the Union. The produce of farm, field and forest is sent from all parts to the East to be exchanged for the product of mine and mill; and this trade taking place chiefly between the East and the West, railways naturally followed the direction of commerce. Thus the great trunk lines were established which connect the heart of the Continent and hundreds of local or sectional lines with the East. As the highways of the Roman Empire all led to its capital, so the railways of the United States all lead to the Atlantic Coast. The "Seaboard" is the Mecca of the American railway world, and every line strives after connections with its great harbours.

This naturally imparted unusual importance to the routes in that section, and the railways connecting inland points with the great ports became the trunk lines of which connecting inland systems constitute the branches.

The railways in the Eastern States are divided into three groups, Trunk lines, Coal roads and the New England railways.

The term Trunk lines has been variously interpreted, but the most acknowledged version is that it means a railway connecting either Chicago or St. Louis, or both, with the Atlantic Coast. Since the various Vanderbilt roads are usually regarded as one system, there are four trunk lines, namely the Vanderbilt, Erie, Pennsylvania, and Baltimore and Ohio. These lines all touch several important points in the Central and Western States, and connect them with one or more of the four great ports on the Atlantic Coast. The following diagram shows the principal points touched directly by each of the four Trunk lines, the asterisks denoting existing connections.

	Washington.	Baltimore.	Philadelphia.	New York.	Boston.	Buffalo.	Pittsburgh.	Cleveland.	Cincinnati.	St. Louis.	Chicago.
Vanderbilt Lines	—	—	—	*	*	*	—	*	*	*	*
Erie	—	—	—	*	—	*	—	*	*	—	*
Pennsylvania	*	*	*	*	—	—	*	*	*	*	*
Baltimore & Ohio	*	*	*	*	—	—	*	*	*	*	*

It may be said that the New York Central, apart from having its share of through traffic between East and West, controls that between New York and Canada and local traffic in Northern New York State, while it has the lion's share of New England business. The Erie is a line mostly for through traffic, although its local business is quickly developing. The

Pennsylvania has a heavy mineral traffic with points in the anthracite region and in the Alleghanies, and like the New York Central is a great passenger route. The Baltimore & Ohio again is mostly for through traffic, has valuable Southern connections, and a growing mineral freight business. In combination these four trunk lines practially form the main stem of the entire American system, and the principal Eastern connections of Western, Southern, and Central lines. They are the only direct routes between East and West, although several other railways constitute, either wholly or partly, through connections. Thus in the North the Canadian Pacific and Grand Trunk, in the South the Chesapeake and Ohio and the Norfolk and Western and their allies compete, and between Buffalo and New York the Lackawanna and Lehigh Valley railroads are rivals in business. Moreover the Erie Canal[1]), which runs from Buffalo on Lake Erie to Albany on the Hudson, and therefore makes a direct water route from all Lake points to New-York, come in for a considerable amount of traffic, said to be the equivalent of some 17000 freight train loads, and mostly consisting of low freights. Nevertheless the four great Trunk lines command by far the greater part of through traffic.

The "coal roads," a group which of late has attracted a considerable amount of attention connect the coal fields of Northeastern Pennsylvania with important surrounding commercial centres. These coal fields embrace three great basins, the Schuylkill, Wyoming, and Lehigh districts, which have an aggregate annual output of approximately 37,000,000 tons of anthracite, or hard, and a considerable amount of bituminous or soft coal, which, however, is found further West. The Philadelphia & Reading, Lehigh Valley, and Jersey Central, now constituting the Reading system, which controls over seventy per cent. of the output of the district, are the most important of these railways; but the Lackawanna, Delaware & Hudson, and Susquehanna and Western, are also of importance; and the Pennsylvania, which penetrates into the anthracite coalfields, as well as into the bituminous coal region, is an important coal line, and so is the Erie, which is instrumental in carrying vast volumes of this fuel to Buffalo, and other central or Western points. Since the completion of its Scranton Branch the Ontario & Western has also materially enhanced its importance as a coal-carrying railway.

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[1] The Erie Canal, running from Lake Erie, at Buffalo, to the Hudson, at Albany, is 364 miles long, 80 feet broad at the top, 55 feet at the bottom, and ten feet deep. The canal costs more than $50,000,000, paid by the State but long since repaid by tolls which are abolished since 1882. The Government contemplates enlarging the canal so as to make the Lakes accessible to sea-going vessels. At present the traffic is confined to barges costing between $3000 and $5000 each. During the season, which lasts from April until October or November, a hundred barges arrive in Albany daily, each of them carrying the load of a freight train, so that the canal is equivalent to about 17,000 freight trains annually. The boats perform the journey usually in eleven days. The canal has reduced the freight rate from Albany to Buffalo from 25 c. per ton per mile to 2.7 c. in 1884, and now it does persumably not exceed 0.66 c. per ton-mile. Barges grew in average size from 64 tons in 1844 to approximately 240 tons now there are few steam barges. *Kings Handbook of the U. S.*

Pottsville, Reading, Maunch Chunk, Scranton and Wilkes Barre are the most important centres of anthracite coal mining, and from these points the hard or smokeless coal is sent to all surrounding points. As it may be useful to enumerate the connections between these coal fields and the centres of shipment and consumption I append the following statement.

Connection between coal-fields and:	*By*
Baltimore	Reading and B. & O. combination, Penna., and North-Centr.
Philadelphia	Penna. and Reading RR.
Jersey City (New York)	Penna ; Reading; Lackawanna : Jersey Central and Lehigh Valley RR.
New England	Phila. Reading and New England, and partly: Delaware & Hudson; Ontario & Western; Erie; West Shore RR., and steamers from Philadelphia and New York.
Canada and Lake Ontario	Delaware & Hudson; Ontario & Western; Lehigh Valley; West Shore; and Del. & Lackawanna RR.
Buffalo	Erie; Lehigh Valley; and Lackawanna direct; partly over West Shore and others.
Lake Erie points	West Shore, Erie, and Pennsylvania (see also Buffalo.)

As to the New England roads, these railways distinguish themselves by a strongly developed local traffic, connected with the density of population. Apart from many small lines there are several great railways connecting with New York and Albany or with Poughkeepsie Bridge. (See p. 195). New England is practically cut off from the rest of the Union by the Hudson River and the Vanderbilt lines running on both sides of that stream, and for this reason the Vanderbilt system forms the principal connecting link between New England and the West, although the Grand Trunk and Canadian Pacific compete along *détours*. For details relating to the New England Railways the reader is referred to Chap. XXI.

CHAPTER XIV.

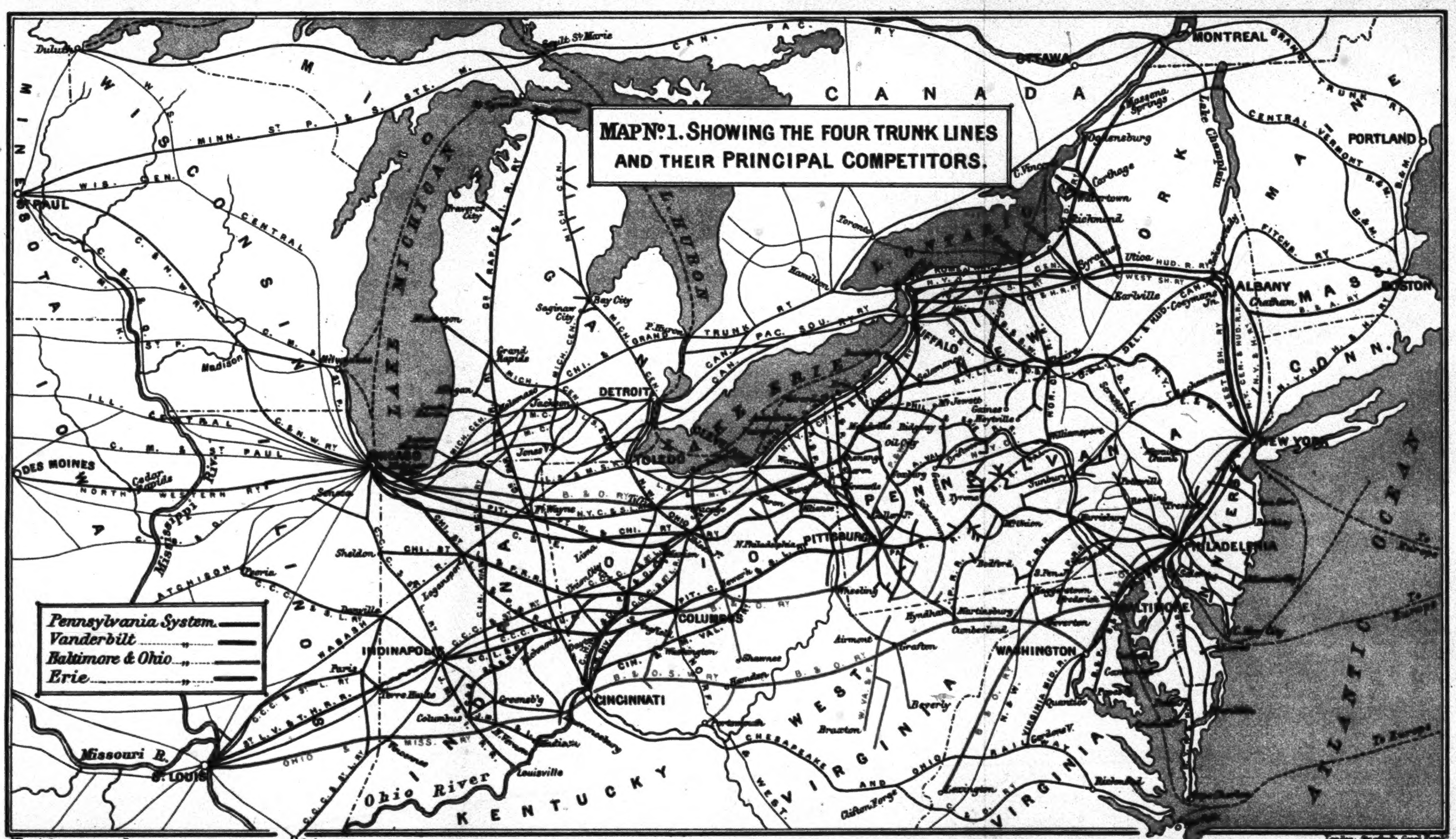
THE NEW YORK CENTRAL SYSTEM.

Of the great railway systems of the United States, that controlled by the Vanderbilt family is the largest and the most important. Although divided into seven separate systems leading an independent corporate existence, it forms one homogeneous whole, the component parts of which are firmly held together by ties of common ownership.

The following is a summary of the recognised parts of the system:—

Chicago and Northwestern RR.	7,100	miles.
Cleveland, Cincinnati, Chic. & St. Louis RR. .	2,314	„
New York Central & Hudson River RR. . . .	2,096	„
Michigan Central & Canada Southern RR. . .	1,609	„
Lake Shore & Michigan Southern RR.	1,446	„
New York, Chicago & St. Louis RR..	523	„
Boston & Albany RR.	389	„
Total length of Vanderbilt system	15,476	„

The New York Central is the trunk of this system, while the other lines represent branches carrying freight to the main stem; the Chicago and Northwestern penetrates into the great Northwest, and the Cleveland, Chicago, Cincinnati and St. Louis taps the Southwest; the Michigan Central, Lake Shore, New York, Chicago and St. Louis and "Big Four" traverse the fertile soil of the prosperous Central States and carry the produce of almost the entire region between the Lakes, the Mississippi, and the Ohio, to Buffalo, whence the New York Central runs to New York and Jersey



MAP No. 1. SHOWING THE FOUR TRUNK LINES AND THEIR PRINCIPAL COMPETITORS.

Pennsylvania System
Vanderbilt
Baltimore & Ohio
Erie
CANADA
MONTREAL
OTTAWA
PORTLAND
BOSTON
ALBANY
NEW YORK
PHILADELPHIA
BALTIMORE
WASHINGTON
PITTSBURG
BUFFALO
DETROIT
TOLEDO
CHICAGO
COLUMBUS
CINCINNATI
INDIANAPOLIS
ST. LOUIS
ST. PAUL
DES MOINES
Duluth
Sault St. Marie
Milwaukee
Louisville
Cairo
LAKE MICHIGAN
L. HURON
L. ONTARIO
LAKE ERIE
Lake Champlain
Mississippi River
Missouri R.
Ohio River
WISCONSIN
MINNESOTA
IOWA
ILLINOIS
INDIANA
OHIO
MICHIGAN
KENTUCKY
WEST VIRGINIA
VIRGINIA
PENNSYLVANIA
NEW YORK
MAINE
MASS.
CONN.
ATLANTIC OCEAN
To Europe
CAN. PAC. RY
GRAND TRUNK RY
CENTRAL VERMONT
WIS. CEN.
MINN. ST. P. & S. STE. M.
C. & N. W. RY
ILL. CENTRAL
C. M. & ST. PAUL
NORTH WESTERN RY
B. & O. RY
CHESAPEAKE & OHIO
HUD. R. RY
WEST SH. RY
FITCHB. RY
B. & A. RY

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London, Stanford's Geogl. Estabt.

City, connecting at the same time with Boston by the Boston and Albany.

The New York Central being the principal channel through which the traffic collected by its allies in more than a dozen of the most important States flows East, it follows that it is one of the most prominent railways of the United States. Indeed, if we remember that all other Vanderbilt lines are virtually branches of this four track route, we must concede to it the first place among the railways of its country; for if we make due allowance for its smaller size the New York Central excels even the Pennsylvania, which is commonly regarded as the standard railway of the United States, a fact due to its extensive connections being without exception under its direct control. The only railway in America which can be compared with the N. Y. C. is the Penna. division of the Penna. RR., but although the latter, as far as roadbed, etc., is concerned is in no way inferior to its great rival, and like the N. Y. C. practically has a monopoly of traffic between the two great railway centres of its home State, the Vanderbilt line has the advantage of running through densely populated valleys eminently fit for agriculture and industries alike.

The foundation of the present system was laid in 1826, when the Albany and Schenectady Railroad was chartered; and as at that time locomotives were scarcely invented, this railway was originally intended for a traction road or tramway, such as were built in some other parts of the States and in England. This tramway, following the valley of the Schenectady River, connected the capital of the State of New York with the little town of Schenectady, situated some twenty miles West of it on the Erie Canal; the latter had been opened for traffic in 1825 and ran along the old commercial route between the coast and the Lakes. This, the present course of the New York Central, followed the Hudson River as far as Albany, and from there ran West through the valleys of the Schennectady, Mohawk, and other rivers until it reached Buffalo on the easternmost point of the great Lake system which gave access to the heart of the North American Continent.

It was but natural that along such a route, which in its early days was the only one connecting with the virgin woods and fertile valleys of the West, numerous towns should spring up, the more because in addition to transportation facilities the region was attractive and the climate fine, while a fertile soil encouraged settlement; and thus a number of towns soon lined the banks of the Erie Canal. But this waterway being closed during winter the want of other means of communication was soon felt, and thus railways were gradually built between the Hudson River and the Lake, steam traction being substituted for horse power before the seven companies then owning the lines between Albany and Buffalo had completed the iron link connecting the two towns. By 1850 this railway was opened for traffic, and one could travel by train from Lake Erie to the Hudson in thirty hours, changing cars at six intermediate points.

About this date Cornelius Vanderbilt, who had acquired a considerable fortune with his steamboats, foresaw not only the future of railways, but also realised the great prospects of the lines between Albany and Buffalo, as well as the advantages bound to attend the consolidation of seven small lines, and he therefore endeavoured to acquire control of them, in which he succeeded in 1851, when all the companies were united into one, henceforth known as the New York Central Railroad Company. Two years later the Commodore completed his Hudson River Railroad, running along the Hudson River from New York to Albany, and thus he owned railways connecting the Lakes with tidewater.

From the outset the New York Central possessed great advantages over all existing routes to the West. While in its early days the Baltimore and Ohio was no competitor, the Erie Railroad, completed immediately after the consolidation of the seven small railways, was far inferior, because, firstly, it traversed hills instead of valleys, and, secondly, because it led through a country attracting neither farmers nor traders, and therefore practically devoid of population. The Erie Canal, again, along which the N. Y. C. ran, was handicapped firstly by its closure during winter, and secondly by the slowness characterising navigation, and especially navigation on artificial waterways. Thus with everything in its favour the young company thrived and prospered; along its lines towns and villages sprang up; its business increased and its profits grew; and, commanded by one of the shrewdest and most enterprising Americans that ever lived, the field of its operations was bound to expand as time went on. While natural conditions in themselves would have rendered such growth inevitable, the energy of its owner, whose numerous speculations rapidly increased his wealth, accelerated it; lines were extended, branches [illegible] and amalgamations effected; and the rude force of Vanderbilt's growing millions in unison with the strong constitution and vitality of the young system gradually elevated it to its present condition. In 1869 the New York Central was united with the Hudson River Railroad; in 1873 it leased the Harlem RR. which competed for local traffic; in 1877 it extended its lines to Niagara; in 1884 it conquered the West Shore, which paralleled it over its entire length; in 1891 it leased the Rome, Watertown and Ogdensburg, thereby converting a local competitor into a valuable connection with the St. Lawrence River; and in the meantime the Vanderbilt interest had acquired Western connections, first the Lake Shore, next the Michigan Central, then the New York, Chicago and St. Louis, Chicago and Northwestern, and C. C. C. and St. Louis. Thus the New York Central and Hudson River Railroad grew into a continuous six-tracked railway between Lake Erie and tidewater, having no superior among American railroads, no rival in its local business, and valuable connections for its through traffic equalled by those of no other road.

The following is a summary of the principal parts of the system.

	Owned Lines.	
N. Y. C. & H. R. RR. Main line	(New York to Buffalo)	441·75 miles
do. do. Branches	,, ,,	377·70 ,,
	Leased Lines.	
Rome, Watertown & Ogdensburg	(Niagara to Massena Springs)	629·18 ,,
West Shore	(Weehawken to Buffalo)	495·20 ,,
New York & Harlem RR.	(New York to Chatham)	135·90 ,,
Various minor lines	(Various points)	16·73 ,,
Total length........................		2,096·46 ,,

Of these railways the *New York Central* proper is by far the most important, not only because it is the backbone of the entire Vanderbilt system, but also on account of its fine terminal accommodations. It is the only trunk line owning a large terminus in New York, all other lines terminating in Jersey City, opposite the business centre of the metropolis on Manhattan Island, and connecting therewith by means of huge ferry boats. In 42nd Street, near 5th Avenue, we find one of the greatest "depots" of the country, the Eastern terminus of a system with as great a mileage as all railways of England combined. The goods terminus is situated closer to the river, and is equally excellent.

When we leave the station we first enter a tunnel running underneath 4th Avenue, and then cross a fine bridge over the Hudson River. Soon we are speeding along the eastern shore of the Hudson, trains on the West Shore RR., which runs on the opposite bank, coming frequently into view. We pass the approaches to Poughkeepsie Bridge, an immense structure $1^{3}/_{4}$ miles long which spans the Hudson and was begun in 1873 in order to give unbroken rail connection between the Pennsylvania coalfields and New England. The aspect of the country becomes very charming as soon as we leave New York, the "American Rhine" being noted for its exquisite scenery, which attracts large numbers of tourists. The roadbed, surpassed by none in the States, consists of four tracks, one each for freight and passenger trains up and down, is excellently graded and ballasted, and provided with heavy steel rails. A little beyond Poughkeepsie we catch glimpses of the Catskill Mountains, which contain many favourite summer resorts, and after a journey of four hours we arrive at Albany, the State Capital (pop. 95,000) where the N. Y. C. meets the Boston and Albany and the Delaware & Hudson RR., which before the lease of the Rome, Watertown and Ogdensburg was the principal connection with Montreal. In Albany the line leaves the Hudson River, changing its northern for a western direction, and running past Schenectady, Utica, Rome, Syracuse, Geneva, Rochester, and Batavia to Buffalo and Niagara Falls. These towns have a population of between 50,000 and 150,000, and are the seats of numerous thriving industries. At Rochester the main line divides itself into two sections, one part following the Erie Canal, and the other running some miles south thereof; both are interconnected by various small branches, and lines running along the Niagara River go from Buffalo to Niagara Falls and Suspension Bridge, where they meet the Michigan Central and Grand Trunk RR.

Buffalo is splendidly situated on the north-eastern extremity of Lake Erie, being connected by that vast sheet of water with all important lake cities of the West. It is a thriving town, the type of a prosperous American city, and has a population of 270,000, composed of the best elements on the Continent: Americans, Englishmen and Germans. The numerous fine buildings in its rectangular streets tell tales of progress and prosperity, and hundreds of tall chimneys speak of great industries, there being about 2,500 manufactories, employing 60,000 workmen. But transit facilities are far more important than the various industries, and constitute the feature of the town. They centre near the quays, where 43 large elevators, capable of holding 14,000,000 bushels of cereals, soar skywards on a shore intersected with rails leading to the central yards, which have 660 miles of "trackage." The sight of these yards is truly stupendous. Hundreds of "cars" are being switched by engines, and numerous long trains arrive and leave without interruption. 900,000,000ft. of timber, 100,000,000 bushels of corn, and 5½ million tons of coal pass this point annually, not to speak of numerous other staple articles, or miscellaneous merchandise. The harbour is one of the best and largest on the Lakes, and is visited by thousands of vessels coming as far as from Duluth in Minnesota, and from the Canadian shores of Lake Superior. And this restless city, with its immense traffic, is the point where the various Vanderbilt lines from the West meet and transfer their freights for the East to the New York Central, in addition to the immense volumes of merchandise brought by Lake vessels.

The West Shore, 448 miles long, was built by opponents of Vanderbilt and opened in 1884, from which date until its sale in foreclosure it seriously interfered with the business of the New York Central, as may be inferred from the fact that the latter had to discontinue the payment of the 8 per cent. dividend which had been regularly declared since the amalgamation with the Hudson River RR., but could not be continued after the opening of the West Shore owing to the rate wars which immediately followed that event.

Except in so far as it runs on the western banks of the Hudson, the geographical situation of the West Shore does not materially differ from that of its lessee; but since it skirts the left shore of the river it has no entrance into New York City, and consequently terminates opposite New York, in Weehawken, whence it is connected with Jersey City by a short railway, named the New Jersey Junction RR., and leased by the N. Y. C.

The condition of the West Shore is by no means as good as that of the N. Y. C., and the lower dividends paid by the N. Y. C. ever since the West Shore came into being show that its existence must be considered detrimental to its present lessee. Yet the fact should not be overlooked that it brings with it some advantages. Since the trunk lines work together harmoniously, certain concessions are made by the better to inferior routes; for instance, the Erie having a slower and less perfect passenger service, may charge lower rates for passengers and certain classes of freight than the N. Y. C. or Pennsylvania; and the W. S. being a line which does not rank among the first, it follows that the N. Y. C. system has the advantage of being in a position to make both first and second class rates. In its connections the West Shore co-operates with another second class Vanderbilt Line, the "Nickel Plate" (N. Y., Ch. & St. L.) whereas the N. Y. C. works chiefly with the superior Vanderbilt connections, viz., the Lake Shore and Michigan Central.

The West Shore, when sold in foreclosure, was bought by members of the Vanderbilt group, namely Messrs. Morgan, Depew and Green, and leased in 1885 for 475 years to the New York Central & Hudson RR. Co. All earnings, etc., are included in that company's report. The share capital of $10,000,000 is owned by the New York Central Company in consideration of its guarantee of the principal and interest of the $50,000,000 of bonds. The mortgage covers the line of road from Weehawken to Buffalo with branches, 448 miles in all, and also the terminals at Weehawken, by ownership of all the stock and bonds of the Terminal Company. The guarantee of the New York Central & Hudson is absolute as to interest and principal and is endorsed on each bond.

The *Rome, Watertown and Ogdensburg RR.*, 643 miles long, runs from Lewiston to Massena Springs, parallel with Lake Ontario and the St. Lawrence River. It connects with the N. Y. C. at Lewiston and also (by means of branches) at Syracuse, Rome, and Utica. The Utica branch and part of the main line are now used by the N. Y. C.'s through service with Canada; trains cross the St. Lawrence at Ogdensburg by means of ferryboats to meet the Canadian Pacific. It was this connection with the great inter-oceanic railway which rendered the acquisition of the R. W. & O. a great gain to the N. Y. C., but it was especially desirable because relations between the two companies were strained. The Watertown entered into a vigorous competition for local traffic, and was so aggressive that the N. Y. C. planned paralleling some of its lines; for this reason the lease, effected in the spring of 1891, was most desirable to both roads. The R. W. & O. shareholders received a scrip dividend of 20 per cent., and the N. Y. C. guaranteed 5 per cent. interest on the increased stock, an exact equivalent of the 6 per cent. paid annually since 1887, which implies that the lease involves no expenditure on the part of the N. Y. C. This is further shown to be the case by the following statement:—

Earnings of the Rome, Watertown and Ogdensburg for the two years preceding its lease to the New York Central.

	1888—89	1889–90
Revenue:—	$	$
Total gross earnings	3,387,333	3,204,968
Net income	1,444,086	1,696,028
Expenditure:—		
Interest, taxes, and rentals	1,050,454	1,054,623
Dividends	328,068	359,502
Total	1,378,522	1,414,125
Surplus	65,564	281,903

The R. W. & O. runs through a densely settled country with a good local traffic and scenery which attracts many tourists. Before it was leased to the N. Y. C. it had a traffic agreement with the Ontario and Western, which it meets at Oswego, and these two railways formerly had a similar arrangement with the Canadian Pacific. As this through traffic was of little profit to the O. & W. the latter made no objections to releasing the R. W. & O. from its obligations when it became part of the Vanderbilt system.

The *N. Y. & Harlem RR.*, 127 miles long, runs from

N. Y. to Chatham, whence it reaches Albany by the Boston and Albany. The N. Y. C. pays 8 per cent. on its stock ($10,000,000) and fixed charges on $12,000,000 7 per cent. bonds, and has a lease for 401 years, dating from 1873.

Other leased roads being of minor importance it is not necessary to enter into any particulars in regard to them here.

The Vanderbilt connections of the New York Central make it the most important route between the seaboard and inland points. The farms and forests of the West send their produce to Buffalo along the Lakes and a number of railways, and although the Erie, Lehigh Valley and Lackawanna Railroads compete for traffic between this point and New York, the N. Y. C., owing to its ramified connections, has a traffic which, as far as passengers are concerned, in proportion to mileage exceeds that of any other trunk line, while the volume of freight it carries is second only to that of the Pennsylvania. Owing to its geographical situation it has no heavy mineral traffic, although it carries nearly 5,000,000 tons of coal annually.

The following shows the part various classes of freight contribute to the whole.

Table showing details of freight traffic in 1890 and 1891

	1891. Tons.	1890. Tons.
Flour	674,812	710,133
Grain	1,591,945	2,031,531
Live stock	651,427	604,670
Fresh or pickled meats or provisions	583,013	627,907
Petroleum and other oils	273,124	296,523
Lumber	1,522,751	1,441,706
Pig and bar iron and steel, and rails	564,032	526,963
Iron and other ores	379,693	259,890
Coal and coke	4,681,475	3,887,141
Other agricultural products	1,248,654	1,328,123
Manufactures	1,242,016	1,101,304
Merchandise	1,539,785	1,666,381
Other articles	1,668 840	1,786,179
Total number of Tons	16,621,567	16,208,451

The business of the New York Central has been subject to those changes which exert their influence upon almost every American railway. It is for this reason that statistics of such an exhaustive nature are given below. The subjoined tables show the development of the system for twenty years, and indicate the bearing of the numerous influences that have been at work during that period, not only as far as this railroad is concerned, but in a broad sense also with regard to the greater part of the American Railroad system.

Table showing passenger and freight movement, growth of mileage, and decline of gross earnings, operating expenses and net earnings per unit of traffic on the New York Central & Hudson River RR. for the twenty years ending 1891.

Year	Miles of track operated	Passengers.				Freight.			
		Carried one mile (millions)	Rate per mile (cents)	Expenses per mile (cents)	Net profit per mile (cents)	Tons Carried one mile (millions)	Rate per ton-mile (cents)	Expenses per ton-mile (cents)	Net profit per ton-mile (cents)
1871	1827	288	2.14	1.63	0.51	888	1.62	1.01	0.61
1872	1865	319	2.08	1.54	0.54	1,020	1.59	1.12	0.47
1873	1925	339	2.06	1.42	0.64	1,246	1.57	1.02	0.55
1874	2014	350	2.13	1.33	0.80	1,391	1.46	0.98	0.48
1875	2359	338	2.14	1.36	0.78	1,404	1.27	0.90	0.37
1876	2382	353	1.91	1.19	0.72	1,674	1.05	0.71	0.34
1877	2432	316	2.07	1.14	0.93	1,619	1.01	0.69	0.32
1878	2471	300	2.00	1.27	0.73	2,242	0.93	0.59	0.34
1879	2484	290	2.05	1.20	0.85	2,295	0.78	0.54	0.24
1880	2511	330	1.99	1.26	0.73	2,525	0.87	0.54	0.33
1881	2520	373	1.86	1.22	0.64	2,646	0.78	0.56	0.22
1882	2622	432	1.80	1.15	0.65	2,394	0.73	0.60	0.13
1883	2657	429	1.98	1.30	0.68	2,200	0.91	0.68	0.23
1884	2702	387	1.94	1.42	0.52	1,970	0.83	0.62	0.21
1885	2720	438	1.41	1.08	0.33	2,137	0.68	0.54	0.14
1886	3688	476	1.84	1.22	0.62	2,414	0.76	0.53	0.23
1887	3722	528	1.96	1.34	0.62	2,704	0.78	0.56	0.22
1888	3729	559	1.97	1.39	0.58	2,754	0.79	0.54	0.20
1889	3759	564	1.93	1.40	0.53	2,775	0.74	0.57	0.17
1890*	3841	557	1.96	1.53	0.43	2,973	0.76	0.54	0.22
1891*†	4752††	597	1.96	1.49	0.47	2,890	0.74	0.57	0.17

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* Year ending June 30th.

*† Including three months earnings R. W. & O.

†† Including mileage of "

Table showing IN MILLIONS OF DOLLARS *earnings from passengers, freight and other sources, gross earnings, operating expenses and nét earnings for twenty years on the New York Central.*

Year Ending Sept. 30.	*Miles of Track Operated.*	*Passenger Earnings.*	*Freight Earnings.*	*Other Sources.*	*Total Gross Earnings.*	*Operating Expenses*	*Expenses Per Cent.*	*Net Earnings.*
1871	1,865	$6,19	$14,47	$1,09	$21,76	$13,57	62·37	$8,19
1872	1,925	6,66	16.25	2,65	25,58	16,44	64·29	9,13
1873	2,014	6,99	19,61	2,51	29,12	17,64	60·57	11,48
1874	2,350	7,49	20,34	3,80	31,65	18,38	58·09	13,26
1875	2 382	7,27	17,90	3,85	29.02	17,26	59·46	11,76
1876	2,432	6,76	17,59	3,69	28,04	16,12	57·48	11,92
1877	2,471	6,57	16,42	3,57	26,57	14,94	56·23	11,63
1878	2,484	6,02	19,04	3,84	28,91	16,13	55 81	12,77
1879	2,511	5,95	18,27	4,17	28,39	16,12	56·94	12,27
1880	2,520	6,61	22,19	4,36	33,77	17,84	53·80	15,32
1881	2,622	6,95	20,73	4,65	32,34	19,46	60·17	12,88
1882	2,657	7,81	17,67	5,14	30,62	19,39	63·32	11,23
1883	2,684	8,52	20,14	5,10	33,77	20,75	61·44	13,02
1884	2,702	7,53	16,43	4,18	28,14	17,84	63·41	10,29
1885	2,720	6,21	14,70	3,50	24,42	16,31	66·80	8,11
1886	3,688	8,78	18,47	3,24	30,50	18,61	61·00	11,89
1887	3,722	10,51	21,14	3,64	35,29	22,38	63·43	12,90
1888	3,729	10,87	21,33	3,92	36,13	24,62	68·15	11,50
1889	3,785	10 94	21,01	3,74	35,69	23,71	66·42	11,98
1890*	3,841	10,91	22,40	3,56	37,00	24,49	66·18	12,51
1891*†	4,752	11,68	21,45	4,76	37,93	25,37	66 94	12,53

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* Years ending June 30th.

*† Figures for 1891 include three month's earnings R. W. & O.

Table showing gross and net earnings, fixed charges, available revenue, interest paid and surplus or deficit for twenty-one years ending 1892.

Fiscal Years. *	*Gross Earnings.*	*Net Earnings.*	*Interest and Rentals.*	*Net Profit.*	*Dividends.*		*Surplus or Deficit*
	$	$	$	$	*P. Ct.*	$	$
1872	25,580,675	9,134,239	1,162,068	7,971,871	(8)	7,244,832	+727,039
1873	29,126,851	11,484,863	1,961,806	9,523,057	(8)	7,136,790	+2,386,267
1874	31,650,387	13 263,089	3,548,734	9,713,355	(8)	7,136,885	+2,576,470
1875	29,027,218	11,765,110	4,425,915	7,339,195	(8)†	7,136,679	+ 202,516
1876	28,046,588	11,922,416	4,709,340	7,213,076	(8)	7,139,528	+73,548
1877	26,579,086	11,632,924	4,689,577	6,943,347	(8)	7,140,659	−197,312
1878	28,910,555	12,774,578	4,736,132	8,038,466	(8)	7,139,526	+898,918
1879	28,396,584	12.273,511	4,679,025	7,594,486	(8)	7,139,528	+454,958
1880	33,175 913	15,326,019	4,756,220	10 569,220	(8)	7,141,513	+3,427,707
1881	32,348,397	12,880,610	4,990,783	7,892,827	(8)	7,138,343	+754,484
1882	30,628,781	11,232,807	5,488,903	5,743,904	(8)	7,145,513	−1,401,609
1883	33,770,722	13,020,128	5,692,972	7,327,156	(8)	7,148,132	+179,024
1884	28,148,669	10,299,356	5,630,596	4,668,760	(8)	7,159,644	−2,490,884
1885	24,429,441	8 110,069	5,933,727	2,176,342	(3½)††	3,129,960	−953,648
1886	30,506,361	11.895,984	7,245,885	4,650,099	(4)	3,577,132	+1,072,967
1887	35,217,056	12,908,432	7,760,924	5,147,508	(4)	3,577,132	+1,570,376
1888	36,132,920	11,506,582	7,831,463	3,675,119	(4)	3,577,132	+97,987
1889	35,696,236	11,985,623	7,868,061	4,117,632	(4½)	4,024,274	+93,358
1890	37,008,404	12,516,273	7,853,811	4,662,462	(4½)	4,024 273	+638,189
1891	37,780,313	12,527,506	8,581,964	3,667,050	(4½)	4,024,273	−356,457
1892 **	45,437,428	14,469,506	9,919,783	4,550,122	(5)	4,417,415	+78,708

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* For 1891 and 1890 the fiscal year covers the twelvemonths ending June 30; for all the years preceding the twelve months ending Sept. 30.

† In this year 10 per cent. altogether was paid. As, however, there was no increase in the *rate* of dividend, the aggregate distribution being larger simply because of a change in the dividend periods from semi-annual to quarterly, we have allowed only for the ordinary 8 per cent.

†† In this year the method of charging dividends was changed, the October, 1884, dividend of 1½ per cent., which under the old arrangement would have come out of the 1884—5 earnings, being charged to accumulated income, and the next four quarterly dividends, aggregating 3½ per cent. charged to the 1884—5 earnings, this plan having since then been regularly pursued.

** Including Rome, Watertown, and Ogdensburg RR. The figures for 1892 are taken from a preliminary statement.

Table showing the Share Capital, Funded Debt and "Cost of Road and Equipment" of the New York Central, exclusive of the Harlem, West Shore and Ogdensburg Railroads for each year since 1870.

Year Ending Sept. 30.	*Share Capital.*	*Funded Debt.*	*Cost of Road and Equipment.*
1870	$89,428,330.00	$13,681,807.31	$ 59,765,684.06
1871	89,428,330.00	15,231,718.98	60,413,656.86
1872	89,428,300.00	16,496,020 00	63,299,924 37
1873	89,428,300.00	27,725,533.33	78,014,954.65
1874	89,428,300.00	38,484,742.62	92,506,503.97
1875	89,428,300 00	40,003,667.62	96,355,774.50
1876	89,428,300.00	39,844,733.33	97,822,811.05
1877	89,428,300.00	39,801,233.33	99,142,408.71
1878	89,428,300.00	39,801,233.33	99,894,095.43
1879	89,428,300 00	39,801,133 33	100,773,116.74
1880	89,478,300.00	41,473,033.33	105,007,053.69
1881	89,428,300.00	43,473,033.33	110,090,216.90
1882	89,428,300.00	48,473,033.33	112,756,935.59
1883	89,428,300.00	49,997,233.33	114,731,917 59
1884	89,428,300.00	56,497,233.33	114,801,298.86
1885	89,428,300.00	56,424,333 33	146,014,835.30
1886	89,428,300 00	56,424,333.33	146,630,682.19
1887	89,428,300.00	56,424,333 33	147,047,973.00
1888	89,428,300.00	56,183,333.33	148,283,142.44
1889	89,428,300.00	57,183,333.33	148,620,629.60
1890	89,428,300 00	59,183,333.33	150,2 8,885.21
1891	89,428,300.00	65,377,333.33	150,002,282.79

Taking the indications of these tables in regular order we find, firstly, that partly by extension, but chiefly by amalgamation, the system has grown about a hundred per cent. between 1871 and the date of the lease of the Rome, Watertown and Ogdensburg, which, by the way, introduced a slight abnormality into the accounts for 1891. The increase in passenger business kept pace with this growth in mileage, that in freight traffic exceeded it by 50 p.c.; passenger rates declined a little, but owing to economies this branch of business remained as profitable as it was two decades ago. With freight it was different. There was an increase in volume as compared with mileage; but gross rates fell nearly 60 p.c., and although expenses per ton mile were cut down

(44 p.c.) a serious decline in profits per ton-mile ensued which was so great (72⅓ p.c.) that the growth of traffic could not compensate for it. The bearing of these circumstances upon earnings is evident. Passenger traffic continued as profitable as before and yielded as great a revenue; but the increase in the volume of freight, amounting to 170 p.c. was obliterated by lower rates in a measure which caused earnings from freight to decline per mile of road operated; and freight being the principal source of revenue it follows that total earnings also failed to keep pace with the growth in the "length of track." Net revenue in its proportion to gross also fell very considerably. Had it kept pace with the growth in mileage it would now reach about $20,000,000; but as a result of the influences specified before it was kept at $12,500,000 an increase in twenty years of less than 4·5 millions, which is neither commensurate to the growth in mileage nor to the increase of fixed charges; for the latter, owing to the gradual perfection of the roadbed, increased very considerably, namely from 1·43 to 8·88 million dollars *per annum*, so that at present they amount to 7·45 million dollars more than twenty years ago. There being an increase in net earnings of but 4·24 millions, it follows that 3.21 millions less than in 1871 are now available for distribution among shareholders, whose aggregate holdings have not increased since 1869; this shows the reduction of the dividend to have been inevitable.

Speaking broadly the experience of the N. Y. C. has been the experience of most American railways. No doubt it gives little reason for satisfaction, for the enormous expenditure upon improvements and the amazing growth and general solidification of business not only failed to compensate for, but were insufficient to stay, the downward tendency of *pro rata* earnings, and the result has been that one of the finest properties enjoying numerous exceptional advantages denied to other railways offers a lower return upon investment now than before. Yet with all that there is no reason to take a pessimissic view of the situation. The phenomenon is chiefly a result of the fall in rates; but rates are rarely reduced beyond the point which renders a fair return upon *bona fide* investment possible, and in the case of the New York Central they have reached that point and in the ordinary course of events will not go lower. During the past six years rates have oscillated within a very narrow limit, and they no longer constantly fall; they remain at a point which renders a fair dividend just possible. And it should always be remembered that even a moderate dividend means an excellent return upon capital because the present share capital represents no real investment to anything resembling its full amount. The subjoined statements give details in regard to share capital, funded debt, revenue, expenditure, assets and liabilities of the company.

Statement giving details of share capital and funded debt of the New York Central on June 30th, 1891.

Share Capital:— *894,283 Shares, $100 each........................ $89,428,300.00
Share Capital per mile................ .... $109,132.00
Funded Debt:—

Class of Bonds.	Issued.	Due.	Amount authorized.	Amount outstanding.	Rate. p. c.	Interest payable.
* 1st. Mortgage	1873	1903	$30,000,000	$30,000,000	7	Jan & Jul.
* 1st. Mort. Sterling	1873	1903	£2,000,000	£2,000,000	6	do.
* Debentures	1884	1904	$10,000,000	$10,000,000	5	Mar & Sep.
Debentures	1889	1904	$1,000,000	$1,000,000	5	do.
* Debentures[1]	1890	1905	$15,000,000	$8,194,000	4	June & Dec
Extended Debt Certif.	1853	1893	$6,450,000	$6,450,000	5	May & Nov.

Total amount of Funded Debt............. $65,377,333.33
Amount per mile of road owned.......... $79,781.97

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* Quoted in London.

[1] Of these debentures $2,000,000 were issued in 1890, and $6,500,000 in 1891, when $306,000 were purchased and retired. $15,000,000 of this issue are authorized and have a sinking fund of $300,000 yearly—no drawings.

London Agents: Messrs. J. S. Morgan & Co.

The following statements give details of revenue, expenditure, assets and liabilities for the two years ending June 30th, 1891.

EARNINGS AND EXPENSES.

	1890–91.	1889–90.
	$	$
Earnings:—		
Freight	21,456,473	22,490,228
Passengers	11,681,109	10,919,871
Rents	1,680,996	1,709,300
Mail and express	2,218,903	1,043,643
Telegraph	11,244	8,595
Interest	559,577	558,942
Other	293,812	273,824
Total earnings	37,902,114	37,008,403
Expenses:—		
Traffic	10,365,628	9,967,974
Motive power	6,743,992	6,448,130
Maintenance of cars	1,854,185	2,222,694
Maintenance of way	3,722,522	3,523,682
General	898,423	779,510
Taxes	1,686,102	1,530,140
Total expenses	25,370,852	24,492,130
Net earnings	12,531,262	12,516,274
Per centage of operating expenditure to earnings	66·94	66·18

INCOME ACCOUNT.

	1890–91.	1889–90.
Revenue:—	$	$
Net earnings	12,531,262	12,516,274
Rebate on State tax of prior years	88,740	111,030
Total income	12,620,002	12,627,304
Expenditure:—		
Rentals paid	4,452,100	4,053,398
Interest on debt	3,854,968	3,590,535
Taxes on earnings and capital stock	274,896	210,884
Dividends (4½ per cent)	4,024,273	4,024,273
Reserved	300,000	———
Miscellaneous	72,222	———
Total disbursements	12,978,459	11,878,085
Balance	def.358,457	sur.749,219

GENERAL BALANCE JUNE 30.

	1891.	1890.
Assets:—	$	$
Road and equipment	151,002,288	150,278,885
Special equipment	5,706,464	1,451,776
Stocks and bonds†)	10,034,635	6,550,264
Ownership in other lines, real estate, &c.	4,169,701	3,442,258
Due by agents, &c.	5,280,791	3,371,865
Supplies on hand	3,072,813	3,215,289
Cash	2,898,277	2,178,088
Harlem construction account	1,049,984	408,963
West Shore construction acct	———	196,900
Miscellaneous	140,230	242,068
Total assets	183,353,178	171,398,379
Liabilities:—		
Capital Stock	89,428,300	89,428,300
Funded debt	65,377,333	59,183,333
Real estate mortgages	357,000	457,000
Securities acquired from leased lines	3,339,700	———
Past-due bonds	4,790	5,255
Interest and rentals accrued	3,890,009	3,234,456
Unclaimed interest	14,324	8,132
Dividends	894,283	894,283
Unclaimed dividends	30,075	27,945
Wages, supplies, &c.	3,822,833	3,043,421
Due other roads, &c.	2,939,003	931,774
West Shore construction acct	9,472	———
Profit and loss	13,228,026	13,584,490
Total liabilities	183,353,178	171,398,379

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† These securities chiefly include: $10,000,000 shares of West Shore RR., $2,597,000 shares of Merchants Despatch. $1,000,000 shares of Western Despatch Co. $1,257,000 Bonds of Dunkirk, Warren & Pittsburg RR., $1,300,000 bonds of Warren & Venango RR., and some thirty other descriptions. These $10,034,635.43 of course represent ledger value, the par value being a trifle over $25,000,000.

The following is a specification of the first charges of the company according to the latest official statement.

Interest on Bonds etc.	$3,854,968.11
New York States Taxes.	274,895.95
Reserve for Redemption of 4°/₀ gold debentures.	300,000.00
Total First Charges.	$4,439,864.06

Available revenue has always considerably exceeded these charges, and although profits, as is evident from the above tables, no longer amount to such large sums as before, there has ever been such a considerable amount of excess revenue that the bonds of this company are rightly classed among the best securities of American railroads, and inclusive of the issues of subsidiary companies guaranteed by this corporation enjoy a "credit" of less than four per cent[1]. The margin over first charges during the past six years varied between $3,649,000 and $5,147,000,[2] and a little over $4,000,000 being required for a 4½ p.c. dividend, the latter, owing also to a strong reserve, possesses a degree of regularity characteristic of but few American shares, a circumstance reflected in the quotation, which during the past six years but once fell below par—namely in 1890, when it touched 98.

The board of directors includes: Mr. Chauncey M. Depew, President, one of the most prominent members of the Republican party, equally famous as an orator and a lawyer, and frequently called the "first gentleman of America"; Messrs. Cornelius, William K. and Frederick W. Vanderbilt, members of the well known family, the last named of this trio dis-

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[1] *Investor's Review*, May 1892, p. 342.

[2] The following table shows net income over expenditure and surplus for the past six years.

1886	Net income over exp.	$4,650,100	Surplus	$1,072,966
1887	" " " "	5,147,509	"	1,570,577
1888	" " " "	3,675,118	"	97,986
1889	" " " "	4,166,346	"	142,074
1890	" " " "	4,773,492	"	749,219
1891	" " " "	3,649,250	Deficit.	356,457

playing, it is said, much of the talent of the Commodore; Mr. J. Pierpont Morgan, one of the ablest financiers of the country; Mr. W. Bliss, a brother-in-law of the Vanderbilts, and Mr. S. S. Jewett.

Among the more recent events which are of special interest to investors we find the resolution to introduce the inter-lock system, a fact which seems connected with several very serious accidents which occurred in 1891. The N. Y. C. will be the first American railway to adopt this safety appliance. The cost of this work is estimated at several million dollars. Next a recent order of the Federal Government to raise the bridge across the Harlem River 24ft. will involve an expenditure of some $3,000,000. Of course the company can, with its high credit, easily provide for these betterments; and it seems as if the $7,000,000 that may be issued in addition to the $8,000,000 debentures of 1890 (4 p.c.) will be used for this purpose. Supposing both the bridge and the inter-lock system together cost $5,000,000, fixed charges would increase $200,000, a sum which is not likely to interfere in any way with the usual dividend, a considerable surplus having been earned in all recent years except the last, while the introduction of the inter-lock system would undoubtedly result in savings.

CHAPTER XV.

THE ERIE SYSTEM.

Ever since its opening the Erie Railroad has been one of the principal railways between East and West. It was chartered in 1832, when the struggle for commercial supremacy, then raging between the Eastern cities, had been decided by the Erie Canal in favour of New York.

The New York & Erie RR. was projected to connect Piermont, situated a few miles above New York on the Hudson, with Dunkirk on Lake Erie; but owing to numerous adversities the line was not completed until long after the general introduction of locomotive engines, in 1851. Since 1860 the company has gradually extended its lines, and although its history from the day it was chartered until a few years ago is nothing but a record of mistakes and malpractices which seriously interfered with its growth by repeatedly involving it in financial difficulties, the railway, owing to the wonderful strength of its constitution, developed into a system occupying a very prominent position among the great railroads of America.

Unlike the Vanderbilt line, the Erie neither followed an established trade route nor valleys of important rivers; it cut its way diagonally through New York State, going from the mouth of the Hudson to the head of Lake Erie in as straight a line as the hills obstructing its path would permit, and following the picturesque ravines and darting streams that wind through one of the loveliest parts of the Eastern

States. It need hardly be said that this route was by no means an advantageous one. Steep gradients rendered the cheap movement of freight an impossibility, while local traffic was lacking; to neutralise these drawbacks the expenditure of vast sums and the exercise of a considerable amount of patience were necessary, and although the engineers undoubtedly succeeded in gradually removing technical difficulties, while the company attracted a prosperous population and important industries to the towns and villages along its line, the absence of natural advantages probably never will be entirely offset even by the dexterous application of these stimulants. The Erie was projected to become a line for through traffic; and upon through traffic it will always have to depend more than upon local business. This being a recognised fact it seems pertinent to remark here that since through traffic requires very low rates, and low rates in turn admit of profits only on very good roads, perfection of roadbed is the basis without which a sound financial condition of the company is impossible.

It is not necessary to trace the development of the Erie through all its phases. The malpractices of which its officials have been guilty and to which reference is made below, involved the company in financial difficulties which could not but hamper the growth of the railway; yet in spite of this serious handicap it has gradually grown into a system occupying in proportion to its length such a prominent place among American railways that our attention is at once called to the exceptional degree of vitality it possesses.

The Erie was projected to run from Piermont, near the mouth of the Hudson, to Dunkirk on Lake Erie, a little to the southwest of Buffalo, but it gradually became necessary to shift the terminals of the Erie proper to Jersey City and Buffalo, because these points enjoyed greater commercial advantages than the old ones. As time went on small lines to important adjacent points were built or leased; in 1868 the present New York, Pennsylvania and Ohio RR., then the Atlantic and Great Western, was leased, and later on the Chicago and Atlantic, now the Chicago and Erie, was added to the system; and to day the Erie interconnects Chicago, Cincinnati, Cleveland, Buffalo, New York, the Pennsylvania coal fields, and the oil region.

The following is an enumeration of the principal lines now constituting the Erie system:—

Owns:—	Main Line and Branches	551	miles
Leases:—	Buffalo N. Y. & Erie	140	„
	Buffalo & Southwestern	66	„
	Various smaller railways	345	„
	Erie lines proper	1,102	„
	N.Y. Pa., & Ohio System	596	„
Controls:—	Chicago & Erie	268	„
	Total Erie System	1,966	„

Various ferry-boats ply between several points of New York and the Erie "depot" in Jersey City, a spacious and well-appointed building constructed in 1888. Soon after leaving this station the rails go through the Bergen tunnels and turn in a northern direction, passing Paterson, N. J., the prosperous centre of a fine agricultural district which provides the New York and Philadelphia markets with fruit and vegetables. Thirty-two miles north of New York the old track to Pierpont branches off to the right, and at Turners and Greycourt there are lines to Newburgh on the Hudson, connecting the Erie with the N. Y. and N. E. RR. to Hartford, Conn., and Boston, Mass., this line interchanging New England traffic with the Erie. Up to this point numerous residences are in course of construction, many New York business men building their homes here, where ground is cheap and the cost of living low. The Company as well as the landowners do everything in their power to encourage settlement in this charming region, which abounds with hills and lakes, and seem to succeed very well; the excellent suburban train service of the Erie brings an increasing local traffic, and bids fair to become very remunerative before long. It is curious to see how American railways can force an entire region to become populous and prosperous if once they make serious efforts in that direction.

The line proceeds until it reaches Lackawaxen, where it meets an important branch from the Scranton, Pa., coal district. Scranton is an important railway and mining centre in the Pennsylvania anthracite region, and this branch brings enormous quantities of coals, of which the Erie carries nearly eleven million tons annually. In Lackawaxen the Erie also meets the upper Delaware River, which it follows as far as Binghamton. In Binghamton the Delaware and Hudson Canal Company's line crosses the Erie. This company, in whose building in Cortlandt Street, New York, the Erie offices are to be found, is on very friendly terms with the Erie; running from Binghamton to Albany, it connects with the Finchburg RR., (which is the rival of the Boston and Albany RR. of the Vanderbilt system) for Boston, and along these two lines the bulk of Western through freights of the Erie, to and from Massachusetts, are despatched. In the same manner Western freights for Philadelphia leave the Erie at Waverley, a few stations west of Binghamton, to reach their destination along the Lehigh Valley and Reading railroads, and in return these two lines as well as the Delaware & Hudson bring huge quantities of coal from the anthracite district which, in addition to those carried directly by its own branch to Scranton, render the Erie one of the most important "coalers"; the volume of "black diamonds" which it carried in 1891 amounted to 10,751,000 tons, and as far as quantity goes is considerably in excess of all other freight carried. Coal is transported chiefly as "through" freight, although several millions of tons are used at local points, there being a number of important manufacturing towns along the line. Of through coal freights a little over one-half goes to the seaboard, the rest to the West.

The Lehigh Valley, now leased to the Reading, will have completed its own line to Buffalo during the summer of 1892, and as it pays a considerable sum ($2,500,000 per annum and half the salaries of the employees) for the use of the Erie track from Waverly to Buffalo, a very considerable decrease of revenue seems to await the Erie company, unless an arrangement with another company can be entered into.

West of Binghamton the road follows the Upper Susquehanna. The scenery, although not characterised by the serene grandeur of the Alleghanies, is very attractive. The long ridge of mountains bearing that name ceases some fifty miles south of the Erie line, but its outposts stretch for hundreds of miles further north, and develop into the Catskill, White, and Adirondack mountains until they reach the St. Lawrence. The line follows the valleys of the Delaware and Susquehanna, and later of the Chemung, Canisteo, and Conhaston rivers. There are numerous embankments, tunnels, and trestles, the Portage Viaduct being conspicuous among the latter; it carries the trains over the top of six tall and thin iron towers rising from the bottom of a ravine to an altitude of more than 200 feet above the level of a seething stream that runs through the narrow valley beneath.

From Binghamton to Elmira, N.Y., is about 60 miles. This town is a busy manufacturing centre with a population of 30,000, and is a station of the Northern Central (of the Pennsylvania system), the Delaware and Lackawanna, and the Lehigh Valley railroads. Five stations west of Elmira, a leased line, the Buffalo, N.Y., and Erie, leaves the main road, making a direct connection with Buffalo and Niagara Falls, and meeting the Grand Trunk at International Bridge. thus constituting the Grand Trunk and Erie route to Chicago. This branch line also connects with Rochester, with its population of 135,000, and at Attica is joined by a second Erie branch, which leaves the main line 50 miles further west of Elmira. Thus Salamanca is approached, where engine-houses and workshops are to be found, although these are not on so large a scale as similar establishments which the company owns in Jersey City, Buffalo and Susquehanna; from Salamanca to Dunkirk the road runs fairly level until the blue lake is in sight. At Salamanca the branch to Johnsonburg meets the Erie, penetrating into the bituminous coal and oil region. This line is connected with the Erie Coal & RR. Co.'s property (p. 233) which can be seen one of the most stupendous engineering feats of America, the Kinzua viaduct. It is situated 45 miles south of Salamanca, where a valley half a mile wide and 300 feet deep is traversed. The valley being to deep for an embankment, it was first thought best to lead the line through it along gentle slopes, but ultimately another method, the erection of a series of towers which were to carry the rails, was resolved upon. These towers merely consist of iron frames ending in an edge whereon the rails rest, and those in the centre are fully 300 ft. high. They look by no means as strong as they are, and to see a train running over this apparently unsafe structure is a very curious spectacle, and one that tells a significant tale of the triumphs of modern engineers. One of the greatest marvels of this viaduct is that its superstructure cost less than $300,000.

In Salamanca the Erie proper meets the New York, Pennsylvania, and Ohio system, 596.5 miles in length, which it has leased since 1868. The New York, Pennsylvania, and Ohio runs via Marion, and connects with Cincinnati by using the Cincinnati, Hamilton & Dayton RR.; it has three branches into the oil region, and one to Cleveland, and meets the Chicago and Erie in Marion, O. This line is controlled by the Erie and connects with Chicago, thus forming a through route between Chicago and Jersey City.

Although the Erie has good connections, and an excellent business, in proportion to the length of the system, it is from a technical point of view inferior to the New York Central and the Pennsylvania; perhaps it would be more correct to say the latter are superior, for whatever the Erie may be in comparison with the most perfect railways of their country, if not of the world, it still is equalled by few in point of excellence. The main line is very highly spoken of by the New York State Board of Railroad Commissioners; it has block signals throughout—a safety appliance which is rather rare in America; the greater part is well ballasted with broken stone or gravel, sleepers are in excellent condition, and steel rails, already of a superior type, are being gradually replaced by 80lb. ones; there are very few wooden bridges and trestles, numerous new iron structures having replaced the old ones, and although the vast majority of stations cannot be called excellent there are also many of the very best description. This satisfactory degree of perfection has been attained during recent years, and the numerous betterments that were effected were paid for out of earnings; they were indispensable if the company was to maintain its position as a carrier of staple produce. It is this kind of traffic and notably the transportation of coals which is carefully cultivated by the Erie, and in Chicago, Cleveland, and Buffalo as well as in the coal and oil regions it is one of the first and foremost caterers for bulky freights which can be carried in full train loads and without great speed, and therefore at a good profit although at low rates. In connection herewith it may be mentioned that the Erie makes a larger profit on its freight per ton-mile than the other trunk lines. Freight is the great business of the Erie, and passengers are of but secondary importance. The New York Central earns almost as much from passengers as from freight; to the Erie the latter source of revenue yielded in 1891 nearly four times as much as the former, and this line, with a mileage much smaller than that of any of its rivals, moves more freight per mile of road than any other trunk line.

The following compilation shows the growth of passenger and freight business, which has been very satisfactory indeed.

Table showing the growth of passenger and freight business and movement of rates on the Erie, inclusive of the N. Y. Pa., & O. RR.:—

Year	Length in Miles.	Passengers.			Freight.		
		Number Carried (Millions)	Number carried one mile (Millions)	Average Rate (Cents).	Tons Carried (Millions)	Tons carr. one mile (Millions)	Aver. Rate (Cents).
1877	956	4·8	170·8	1.88	6·1	1,114 5	0.95
1878	928	4·8	140 3	2.19	6·1	1,224·7	0 97
1879	928	4·8	149·1	2 09	8·2	1,569·2	0.72
1880	952	5·4	180·4	2.04	8·7	1,721·1	0.84
1881	979	6·7	200·4	2.01	11·0	1,984·3	0 80
1882	1,029	6·7	225·1	1 94	11·8	1,954·8	0.75
1883	1,295	6·9	247·1	1.96	13 6	2,306·9	0.78
1884	1,601	6·7	235·1	2.18	16·2	2,496·8	0.68
1885	1,601	7·2	250·6	1.75	14·9	2,381·7	0.628
1886	1,609	7·7	256 1	1.90	18 6	2,882·3	0.636
1887	1,609	8·8	254 8	1.94	19·8	3,022 0	0 662
1888	1,612	10·1	289·2	1.81	21·3	3,062 8	0 669
1889	1,632	11·8	313·5	1.62	21·5	3,165 2	0.649
1890	1,632	13 2	335·8	1.65	24·1	3,519 4	0.636
1891	1,668	13·8	345·7	1.62	24·9	3,640 6	0.620

Speaking broadly the decline in rates shown by the foregoing table has not caused a reduction in earnings per mile of road; and although at present less per mile is earned than in the years 1880—83, the annual revenue per mile both gross and net, has been progressive since 1885.

The subjoined table shows total earnings per mile since the completion of the main line:—

Year.	Gross Earnings. $	Net Earnings. $	Gross earn. per mile $	Net earn. per mile. $
1852	3,337,766	1,702,598	7,608	3,661
1857........................	5,742,606	1,897,794	11,531	3,811
1862........................	7,863,973	2,992,642	14,088	5,354
1867........................	14,317,213	4,005,996	18,522	5,182
1872........................	18,471,887	5,777,383	19,157	6,024
1877........................	14,708,890	3,809,050	15,370	3,980
1882	19,975,774	6,387,680	19,470	6,713
1887........................	26,567,859	9,177,186	16,503	5,700
1888........................	27,217,990	9,214,321	16,878	5,714
1889........................	27,004,406	9,149,981	16,564	5,606
1890........................	29,068,935	9,562,984	17,811	5,859
1891........................	30,090,699	9,846,763	17,765	6,070

The following statistics relating to the proportion of articles of merchandise and coal carried show the relative importance to the company of the movement of various staples.

GENERAL FREIGHT.

	Tons.	*Percentage of total.*
rain	970,973	13·68
Flour	314,176	4·42
Merchandise	503,661	7·09
Lumber	875,213	12·33
Other products of the forest	410,189	5·78
Iron and other ores	293,344	4·13
Stone, sand, etc.	615,543	8·67
Live stock	207,429	2·92
Salt	230,537	3·2

COAL FREIGHT.

Total	10,751,675	41

Of the total tonnage classed as merchandise freight, 3,063,465 tons, or 43·14 per cent. originated on this Company's line; 5,148,306 tons, or 72·51 per cent., was east-bound; and 1,951,522, or 27·49 per cent., was west-bound.

Of the total tonnage of coal 8·2 million tons were anthracite, 2·3 millions bituminous, and 0·16 million, coke. 55·52 per cent. was carried to local points, the rest to the Eastern and Western terminals.

Subjoined are comparative statements relating to traffic and earnings during the last four years.

Miles run by trains.

N. Y. L. E. & W. RR. AND BRANCHES, EXCLUDING N. Y., P. AND O. RR.

By	*1891.*	*1890.*	*1889.*	*1888.*
Passenger Trains	5,315,193	4,801,305	4,666,379	5,157,062
Freight Trains	11,243,241	8,624,638	8,877,402	10,256,799
Switching Trains	3,307,969	2,979,337	2,952,627	3,317,771
Other Trains	205,240	184,174	229,417	243,806
Total	20,071,643	16,589,454	16,725,825	18,957,427

Traffic with average of haul and load.
N. Y., L. E. & W. RR. and Branches, EXCLUDING N. Y., P. & O. RR.

Description.	*1891.*	*1890.*	*1889.*	*1888.*
Number of Passengers.........	11.832,180	11,421,734	10,107,306	8,543,684
Passengers carried one mile...	280 786,979	258,914,054	237,581,290	214,074,981
Tons General Freight..........	7,099,828	6 719,144	5,706,986	4,975,423
Tons Coal.....................	10,751,675	9,587,982	9,371,146	10,198.586
Tons General Freight carr. one mile..........................	1,499,313,870	1,471,875,937	1,244,815,432	1,075,878,647
Tons Coal carried one mile....	1,247,777,305	1,084,876,694	1,110,720,765	1.174,999,384
Total Tons Freight......	17,851,503	16,307,126	15,084,132	15,174,009
Total Tons Freight carr. one mile	2,747,091,175	2,556,752,631	2,355 536,197	2,250,878,031
Averages—				
Tons of Freight per Train....	244	249	265	261
Miles each ton was hauled....	154	157	156	148
Passengers per Train..........	50	50	51	45
Miles each Passenger was hauled	23 7	22 7	23·5	25

Earnings and expenses per train mile and per unit of traffic.
N. Y., L. E. & W. RR. and Branches, EXCLUDING N. Y., P. & O. RR.

Description,	*1891.*	*1890.*	*1889.*	*1888.*
Earnings per Freight-Train Mile..........	$1.58	$1.65	$1.79	$1.83
Expenses " " "	1.05	1.08	1.12	1.16
Net Earnings " " "	53	57	67	67
*Earnings per Passenger-Train Mile... ...	92	91	96	93
Expenses " " "	67	68	70	70
Net Earnings " " "	25	23	26	23
	Cents	Cents	Cents	Cents
Earnings p. ton p. mile, Merchandise Freight	.733	.753	.770	.803
Earnings per ton per mile, Coal Freight..	.540	.536	.566	.611
Earnings per ton per mile, All Freight...	.645	.661	.674	.703
Expenses " " " ...	.429	.435	.423	.444
Net Earnings " " " ...	.216	.226	.251	.259
Earnings per passenger per mile..........	1.545	1.584	1.639	1.777
Expenses " "	1.265	1.349	1.370	1.582
Net Earnings " "	.280	.235	.269	.195

The growth of the Erie and its business, no matter how satisfactory it may be, undoubtedly would have been greater still but for the financial embarassments which befell the company as a result of dishonest practices perpetrated by those who controlled the property in its early days. Instead of giving their undivided attention to the promotion of the interests of their corporation the vast majority of these gentlemen thought mainly of their own, and almost from the day the company was chartered until comparatively few years ago the history of the Erie is nothing but a record of rascalities, fraud, and dishonesty intimately connected with the fact that Erie shares for many years were the principal playball of Wall Street in a game in which all the most famous operators, Drew, Vanderbilt, Gould, Jerome, Little, and others had their turn.

The Erie was chartered in 1832, and building operations commenced in 1836. In 1841, long before the whole line was completed, the financial difficulties commenced. The $6,000,000 authorised stock was taken up by the public to the extent of but one-sixth, and the costs of construction were defrayed out of $1,000,000 cash subscriptions and a loan of $3,000,000 from the State. It need scarcely be said that these funds were insufficient to carry out the work, and hence the company encountered financial difficulties from the very start. Its small funds being soon exhausted by construction, it was impossible to pay interest on the three million dollars advanced by the State of New York upon the security of a mortgage upon the completed section. In 1845, by which time it had become apparent that further progress was impossible, nay, when the entire enterprise threatened to collapse unless the State waived its mortgage rights, the Albany Legislature made this concession on condition that the road should be completed within six years; and access to new funds being given, the line from Piermont to Dunkirk was opened in 1851.

During the first years of the existence of the New York & Erie RR. business was fairly satisfactory, but owing to injudicious extensions, leases, etc., the company defaulted in 1859, and was placed in the hands of a receiver. In 1861 a reorganisation followed which was succeeded by prosperous years, during some of which the company paid as high a dividend as 8 p.c. Its name now had become the Erie Railway Company, and Mr. Daniel Drew was made President and Treasurer.

The advent of that gentleman marks the beginning of a series of swindles which is without a parallel in the history of American railroads. For more than a score of years the property was chiefly used as a gambling implement for Wall Street, and subjected to so many malpractices that it would be impossible to enumerate them here; I can only cite a few of the most notable events.

The *modus operandi* of Drew was very simple. Immediately after the reorganisation the company had neither funds nor credit, and Drew was the only person who would advance money on the road's own securities; therefore by withholding or extending his credit he could at will involve the company in embarrassments or relieve it from them. He had absolute control of the road, and by causing it to have abundant funds or none at all as he chose, he speculated in Erie stock with abounding success if, having regard to the certainty of their results, his operations could be called speculations. Within seven months Erie stock once rose from 30 to 230 and fell back again to 41, and it is evident that the individual who was able to cause such heavy fluctuations could conduct speculations in "the Street" with unprecedented success.[1]

While Drew was speculating in Erie shares Mr. Cornelius Vanderbilt had united his seven small lines into the New York Central, and, bent upon controlling the traffic between the West and New York, he recognised that possession of the Erie was essential. After a few years of skirmishing it came to a battle between himself and Drew, while a third party, composed of Boston and New York financiers, also entered into the contest for supremacy, which, however, was won by Daniel Drew. But Mr. Vanderbilt was not the man to be beaten, and his first defeat only embittered him and led him to call in the assistance of his millions. The Commodore, as is well known, was a financial genius, and if, therefore, his endeavours to oust Drew were unsuccessful, it is evident that the latter possessed no mean abilities.[1] For a long while nobody could explain how Drew managed to keep the Commodore at bay, because the latter bought every share he could lay hold of; but at last it transpired that Drew, controlling the Erie, constantly created new stock by the million, so that, no matter how much Vanderbilt bought, Drew had more. At one time—in 1869—nobody knew the exact amount of Erie stock outstanding, with the result that the committee of the New York Stock Exchange refused to quote officially, a measure which, however, by no means restricted speculation. While Drew and Vanderbilt were fighting, Jay Gould, then in his teens as a financier, tried to steal a march upon both, but was badly beaten; nevertheless the contest ended with an *entente cordiale* between Drew and the Commodore, and Gould, it appears, was forgiven. After the termination of the Drew *régime*, in 1868, Jay Gould and his friend "Jim" Fisk obtained control, and conducted the affairs of the company in a manner worthy of the traditions of the Drew presidency. Like their predecessor, these two gentlemen "watered" and speculated, and at the same time they seem to have committed downright frauds; at least, when Gould resigned in 1872—it is said because he feared to share the fate of his partner Fisk, who was murdered—he repaid $9,726,000 to the company, this sum having been fraudulently misappropriated by him. We may, however, add that Gould speculated upon the effect of his "honesty," and made more in Wall Street than his present cost him.

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[1] W. W. Fowler: *Ten Years in Wall Street*, p. 439.

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[1] In the *North American Review* (1869—71) Mr. C. F. Adams has chronicled the leading events of this exciting battle in a series of "Chapters on Erie." Speaking of the characteristcs of the two men Mr. Adams says: "the two rascals were each other's equal."

After the resignation of Gould, and the brief and insignificant interregnum of President Dix, who resigned a few months after his election, Mr. Watson became president. He was little better than Drew, Fisk, or Gould, and it seems he differed from these gentlemen only in the fact that he threw his energies rather in the direction of an increase of funded debt than of shares. Within three years the outstanding amount of bonds was more than doubled, being increased from $26,000,000 to $54,000,000. These issues consisted of the first and second mortgage bonds, which were sold at scandalously low prices, and the proceeds from them were used to pay dividends upon the preferred stock. The worst work of Watson, however, was the lease of the Atlantic and Great Western (the present N. Y., Pa., & O.) a property in which many Erie "bosses" were interested, for a rental amounting to 35 per cent. of gross earnings, whereas hardly 25 per cent. of such earnings remained after working expenditure had been met.

The result of these rascalities is evident; the stock became terribly inflated and the company burdened with charges it could not possibly meet. When Watson resigned, in 1874, the funded debt and share capital aggregated $155,000,000 while the property, in spite of some improvements, had cost not more than at the outside one-third of that sum. President H. C. Jewett, who succeeded Mr. Watson in 1874, was the first president of the Erie possessing a fair amount of integrity, and he commenced to improve the property, although this was rendered exceedingly difficult by the financial crisis of 1873, as well as by the fact that every inch of line was heavily mortgaged. However, repairs being urgently required, they were effected, and paid for out of earnings; but these betterments absorbed funds required to meet fixed charges, and hence the company was compelled to default in June 1875, when the inability to pay the coupons of the second consolidated and fifth mortgage bonds was announced. This default took the market by surprise, because the payment of the June coupon had been announced a fortnight before it fell due; but it appeared later on that the promise of an advance of $500,000, which sum was to be used for the payment of these coupons, had been unexpectedly withdrawn at the last moment. This event caused an unpleasant surprise, especially in London, these two classes of bonds being largely held in England. A reorganisation followed in 1876, according to which assessments of 3 and 6 per cent. were paid on preferred and ordinary shares respectively, while the 7 per cent. seconds were converted into 6 per cent. bonds and income bonds bearing 4 per cent. until 1887 and 5 per cent. thereafter, in the proportion of 60 per cent. of the former to 40 per cent. of the latter; holders of 7 per cent. firsts receiving new 6 per cent. bonds for the par value of these bonds and their unpaid coupons. In return for their assessments holders of preferred and ordinary shares received 6 per cent. incomes, and with alterations of voting rights, the appointment of voting trustees, etc., these were the principal features of the reorganisation, which reduced fixed charges and resulted in $3,792,560 being paid as assessments and interest thereon.

This reorganisation had a marked effect upon the affairs of the company, and while there was hardly any increase in mileage until 1887, net earnings rose from $3·6 millions in 1876 to $7·45 millions in 1881, or from $3,764 to $7,612 per mile. In 1881, 1882, and 1883 6 per cent. interest was paid on the preferred shares, and in the last of these three years a surplus of $650,000 remained, so that the company might be assumed to be on a sound basis, the more because since 1870 surpluses amounting to $7,000,000 had been spent upon improvements; yet in 1884 the coupon of the second consolidated mortgage bonds was not paid, owing, it seems, to losses sustained by the failure of two New York banks, but also because of a large floating debt, the existence of which was unknown to the bondholders. Hence confidence was shaken anew, but the default did not lead to a reorganisation; a settlement was arrived at, coupons being partly funded and partly paid in cash. Since 1885 no further default has been made, and a series of years with favourable balances and large expenditures upon betterments improved the condition of the company to such an extent that it was in a position to declare a dividend of 3 per cent. on its preferred shares in December, 1891. The strong constitution of this corporation is rendered manifest by the fact that in spite of the gross abuses perpetrated upon it, and although its credit was exhausted, it succeeded in righting itself again in a comparatively short number of years; and a glance at the subjoined tables will suffice to show that progress is gradual and healthy. Although after 1885 mileage increased but 6 per cent., gross earnings grew nearly 50 and net over 60 per cent., and by degrees the deficit of $1,376,943 of 1885 was converted into a surplus of $1,005,377 in 1891. Tonnage continues to increase; in 1891 it was more than 50 per cent. larger than in 1885, and during the current fiscal year it will, owing to abundant crops and the business activity arising therefrom, show another considerable rise. And while earnings have improved, the condition of the property has undergone a change which nobody can appreciate unless he is acquainted with the railway as it was five or six years ago, and as it is to-day.

The improvement of the roadbed, irrespective of the large amounts that have already been spent upon it, will continue to require vast sums, and must be persisted in until perfection is attained. In his report for 1890 President King remarks:—"A few years ago the speed of freight trains rarely exceeded ten miles an hour; now they average 25 miles. The engines were 30 tons, now they are 60. The rails then weighed 56lb., now 80lb., and steel has been substituted for iron. During the past year we put in 185 tons of steel rails, of which 138 tons were 80lb. The lighter rails which they replace are put on branches or sidings until the entire system has steel rails. The substitution is very expensive, on account of the great difference in weight and price, and it should be borne in mind that the expenditure is paid out of earnings." This remark deserves attention, because it hints at the necessity of constant improvements to cope with the ever-growing requirements of the public. The company now has a considerable annual surplus, and as in December, 1891, it paid a 3 per cent. dividend on its small amount of preferred shares, the possibility of a resumption of dividends at an early date has been discussed in some quarters. It does not, however, appear very likely that they will be resumed in the near future; years with good prospective earnings will in all probability be taken advantage of to accelerate the indispensable improvement of the roadbed and to perfect the service, the more because the company, on account of its heavy capitalization, could hardly effect a new borrowing for this purpose; yet the only direction in which the holders of ordinary shares may look for returns is in amelioration of the property. At present the freight service on the Erie is slower than on the other trunk lines, in consequence whereof the bulk of fast and paying merchandise seeks other routes, while this road gets only "low" freights; nor does passenger business amount to much, its competitors, for obvious reasons, getting the cream of this traffic. By bringing the road to absolute perfection this would change. There would be traffic of a much higher class, against better rates, and at the same time it could be moved more cheaply. Hence the only policy which can be followed with advantage, and in the true interest of the property, is for the present to spend every available dollar upon improvements. It is to be hoped, and also to be expected, that these improvements will further enhance the efficiency of the line. The road suffers from over-capitalisation and physical disadvantages. The former will be felt less as time goes on, and the property increases in value and earning power; the latter can only be obliterated by judicious improvements. Important industrial centres and numerous towns are growing up along the line, together with a paying local traffic, which heretofore was lacking, the line being until recently almost entirely dependent upon through freights. In the United States towns and even vast stretches of country grow with amazing rapidity, and there is no reason to doubt that, provided honest and able management continues, one prosperous decade would suffice to place the company in a position to pay regular dividends on the common stock, which, at the rate of 4 per cent., would require $3,000,000 per annum.

For the last fiscal year the available revenue amounted to $8,229,730. The fixed charges required $7,249,352, and hence a surplus of over one million dollars remained.

Owing to the lapse of the agreement with the Lehigh Valley, which will occur before this book is in the hands of the public, and which, as was stated above, must result in a considerable reduction of revenue unless an arrangement with another company can be entered into, the immediate prospects of the company seem somewhat uncertain. On the other hand the Chicago & Erie is paying off its debt, and the ownership of stock of that subsidiary corporation must become more profitable as time goes on, as will be seen in the chapter dealing with this company. As to the relations with the New York, Pennsylvania & Ohio RR., these will be more fully dealt with under that heading.

Subjoined are comparative statements relating to earnings, expenses, capitalization, fixed charges and finances:—

N. Y. L. ERIE & WESTERN RR. CY., INCLUDING ALL LEASED LINES AND BRANCHES.

Comparative statement for the last five years, ending Sept. 30th.

	1891.	1890.	1889.	1888	1887.
Gross Earnings:—					
General Freight	$15,142,630 27	$15,546,279 38	$13,441,460 04	$12,212,633 48	$13,304,401 82
Coal	7,717,009 78	6,827 120 10	7,110,799 68	8,290,098 92	6,846,342 38
Passengers	[illegible]940,112 14	5,569,507 96	5,301,378 29	5 247 853 46	5,195,840 56
Mail	299,639 87	299,808 67	277,924 38	264,381 45	265,668 25
Express	450,531 33	462,261 42	506,374 97	566,726 73	455,468 87
Miscellaneous	540,776 12	363,962 49	386,468 67	636,295 71	500,138 86
Total	$30,090,699 51	$29,068,935 02	$27,004,408 01	$27,217,989 75	$26,567,858 74
Less Proportions due to Leased Lines:—					
New York, Pennsylvania & Ohio	$2,185,142 71	$2,227,150 61	$2,045,216 58	$2,040,949 41	$2,096,840 61
Buffalo & Southwestern	146,729 20	146,870 66	144,958 65	134,518 23	106,867 04
Suspension Bridge & Erie Junc	82,597 76	78,336 45	66,488 47	59,605 61	63,065 52
Paterson & Newark	54,041 39	51,071 43	51,032 53	49,398 55	48,062 06
Northern Railroad of New Jersey	118,555 07	110,672 04	101,446 51	100,698 15	102,666 01
Total	$2,567,066 13	$2,614,101 19	$2,409,132 74	$2,385,169 95	$2,357,501 24
Working Expenses:—					
Conducting Transportation	$8,228,869 31	$7,917,317 88	$7,221,459 15	$7,263,733 87	$7,128,048 69
Motive Power	6,172,024 67	6,012,396 82	5,311,435 26	5,607,325 29	4,773,364 93
Maintenance of Cars	2,173,021 71	1,987,840 60	2,056,914 15	1,818,748 30	1,817,083 54
Maintenance of Way	3,128,611 87	3,071,523 20	2,777,098 26	2,843,142 34	3,200,677 52
General Expenses	541,408 04	516,882 31	487,518 13	470,519 67	471,498 02
Total	$20,243,935 60	$19,505,950 81	$17,854,424 95	$18,003,469 47	$17,390,672 70
Percentage of Working Expenses to Gross Earnings	67·2763	67·1024	66·1167	66·1454	65·4575
Net Earnings	$7,259,697 78	$6,948,983 02	$6,740,848 32	$6,829,350 33	$6,819,684 80
Add Earnings from other sources	1,040,032 62	1,090,016 24	1,076,504 64	937,840 63	940,656 48
Total	$8,299,730 40	$8,038,899 26	$7,817,352 96	$7,767,190 96	$7,760,343 28
Deduct for interest on funded debt, rentals, and other charges	7,294 352 60	7,178,645 22	7,042,576 51	7,028,348 44	7,158,514 10
Surplus for the year	$1,005,377 80	$860,254 04	$774,776 45	$738,842 52	$601,759 18

Balance Sheet Sept. 30th..

Assets.	1891.	1890.	1889.
	$	$	$
Total cost of road, &c.	167,352,994	165,959,071	165,121,358
Stocks owned	3,265,625	3,213,115	2,785,115
Bonds owned	488,020	340,620	348,120
Advances to Coal & RR. Co.	1,398,275	1,121,918	2,084,646
Do. other companies	673,878	337,670	356,862
Current Assets:—			
Chicago & Erie RR.	440,760	2,214,683	....
N. Y. Pa. & Ohio RR.	106,141	105,295	73,736
Bills receivable	133,000	... ...	50,634
Materials and supplies	440,007	655,187	558,511
Due from agents, &c.	1,702,142	1,809,313	1,634,459
Due from individuals and companies	950,076	575,724	836,223
Cash	490,716	408,776	561,272
Contingent Assets:—			
Chicago & Atlantic Railway Co.	*	*	2,214,683
Other companies for advances	1,110,576	995,015	854,523
Mortgages on real estate	100,000	100,000	100,000
N. Y. L. E. & W. Coal & RR. Co. (operating and interest account)	....	267,422	291,312
Sundry individuals and companies	263,790	220,361	182,858
Erie coal companies, &c.	1,341,896	1,204,627	973,486
Total assets	180,257,897	179,528,799	179,024,798

* Now a "current asset."

Liabilities.	1891.	1890.	1889.
	$	$	$
Common stock	77,414,500	77,404,900	77,395,200
Preferred stock	8,536,600	8,536,600	8,536,600
Bonded indebtedness	77,664,885	77,756,325	77,759,245
Deferred Liabilities:—			
Bills payable	10,000	10,000	10,000
Sundries	12,508	26,209	26,358
Current Liabilities:—			
Loans and bills payable	2,284,633	1,849,866	2,364,357
Dividends	5,394	5,394	5,394
Bond interest due or accrued	1,342,066	1,355,066	1,346,560
Other interest	265,027	181,164	269,188
Rentals due or accrued	668 969	732,728	671,446
Traffic balances, freight	120 839	123,448	157,850
Traffic balances, passenger	65,245	156,937	108,368
Mileage	264,370	158,649	147,569
Pay-rolls for September	1,196,277	1,156,706	1,072,223
Audited vouchers	1,089 680	853,969	618,918
Miscellaneous	51,691	52,433	43 668
Profit and Loss surplus	9,264,786	9,168,404	8,496,854
Total liabilities	180,257,897	179,528,799	179,024,798

Comparative statement of profit and loss for fiscal years ending September 30th.

	1890—91. $	1889—90. $	1888—89. $
Revenue:—			
Earnings, main line & branches	27,503,633	26,454,834	24,595,273
Working Expenses	20,243,936	19,505,951	17,854,424
Net earnings	7,259,697	6,948,883	6,740,849
Pavonia Ferries earnings	385,094	360,557	343,759
Interest on securities	385,641	454,589	432,656
Other credit items	269,298	274,870	300,089
Total revenue	8,299,730	8,038,899	7,817,353
Disbursements:—			
Pavonia Ferries expenses	323,962	341,627	269,930
Interest on funded debt	4,668,880	4,683,021	4,706,836
Weehawken docks interest	18,415	55,245	55,245
Interest on loans	114,592	164,750	40,484
Interest on mortgages, &c.	7,175	6,787	6,410
Interest on equipment	294,463	319,488	314,563
Rentals of leased lines	1,518,066	1,220,884	1,206,055
Taxes	120,239	119,875	91,802
Claims of prior years	51,955	55,692	100,244
Other debit items	156,610	201,275	251,008
Total revenue	7,294,352	7,178,644	7,042,577
Surplus	1,005,378	860,254	774,776

Share Capital on September 30th, 1891.

85,366 Preferred Shares of $100	$18,536,600
774,145 Common " "	77,414,500
Total Share Capital	$85,951,100
Funded Debt (see next page)	77,664,885
Total Capitalization	$163,615,985
Capitalization per mile *owned*	$296,947

Prefered stock has a prior right to 6 per cent. (non-cumulative) from the net profits, "as declared by the board of directors," but the U. S. Supreme Court held in 1886 that this stock has no legal right to *claim* a dividend, although net earnings are sufficient.

Dividends on preferred stock from 1882 to 1884, 6 per cent. —none afterwards till Jan. 15, 1892 when 3 per cent. was paid.

Funded Debt June 30th, 1892.

Description of Bonds.	*Issued*	*Due.*	*Amount Outstanding.* $	*Interest per cent.*	*Annual Interest.*	*Coupons Due.*
a 1st Mortgage.............	1867	1897	$2,482,000	7	$173,740.00	May and Nov..
2nd „	1879	1919	2,149,000	5	107,450 00	Mar. „ Sept..
3rd „	1883	1923	4,617,000	4½	207,765.00	„ „ „
4th „	1880	1920	2,926.000	5	146,300.00	Apr. „ Oct...
5th „	1858	1928	706,500	4	28 380 00	June „ Dec...
a Buffalo Branch Mortg...	1861	1891	182,600	4	7,284 50	Jan. „ Jul....
* 1st Consolidated Mort....	1880	1920	16,891,000	7	1,182 370.00	Mar. „ Sept..
* „ „ Funded Coup.	1880	1920	3,705,977	7	259,418 39	„ „ „
* Reorg. First Lien Bonds.	1878	1908	2,500,000	6	150,000 00	May „ Nov...
* 2nd. Consol. Mortg	1879	1969	25,000,000	6	1,500,000.00	June „ Dec...
* „ „ Funded Coup.	1879	1969	8,597,400	6	515,844.00	„ „ „
Collateral Trust..........	1882	1922	3,344.000	6	204,630.00	May „ Nov...
* Funded Coupons 1885....	1885	1969	4,031,400	5	201,570.00	June „ Dec...
* Income Bonds...........	1876	1977	508,008	—	—	—
Totals.....			$77,684,885		$4,684,751.39	

* These bonds are quoted in London.
a These are currency bonds; all others are gold bonds.

The *first lien bonds* of 1878 have an accumulative sinking fund of $100,000 yearly, and might be called for payment, but the company "has decided that redemption shall be by purchase only."

The *first consolidated funded coupon bonds* are secured by lien of consolidated mortgage. On the *second consolidated mortgage* no foreclosure can take place till six successive coupons are in default, but the whole of one coupon must be paid before any part of a subsequent coupon. In 1883 the *collateral trust bonds* were issued, redeemable at 110 on three months' notice. The *second consolidated funded coupon bonds of 1885* were issued to fund three past-due coupons and the coupon of June, 1886, the coupons being deposited as security. These bonds are redeemable at any time at 105 and accrued interest.

In addition to the securities enumerated above about $1,500,000 car trust certificates are issued and due before 1898, and various bonds of subsidiary concerns are guaranteed, among them being the Long Dock mortgage of $7,500,000 ($3,000,000 not issued) and the mortgage of the N. Y., L. Erie & W. Coal Company, which owes $1,398,000 to the RR. Co. *See below.*

Dividends and interest payable: Dividends on shares in New York exclusively, on bonds either in London or New York at option of holder, at 4s. per $ London agency Woo Exchange, Coleman St., E C.

With regard to the N. Y. Lake Erie & Western Coal & RR. Co. the funds of which are guaranted and partly owned by and the property of which is leased to the Erie, the following is of interest: In the application of this company to the New York Stock Exchange, made in 1891, it was stated that the company has no floating debt; its assets consist of its railroad and branches, and of coal lands and mineral rights in the counties of Elk and McCean, Pa. The road is a continuation southward from Crawford Junction, McKean County, of the Buffalo, Bradford & Pittsburg Railroad, (leased to the Erie company), thus connecting the Erie main line with the coal and lumber regions of Clearfield and Jefferson counties, and also furnishing an outlet (through traffic contracts) for their products to the Philadelphia & Erie Road and its Pittsburg connections. The line includes the Kinzua viaduct, an iron structure 2,050 feet in length and 301 feet in height, built at an outlay (for superstructure exclusive of masonry) of $236,809. The cost of the road was $2,064,557.

The lands owned by the company were acquired in 1887 by purchase from the Northwestern Mining & Exchange Company, a Pennsylvania corporation. The conveyance is dated May 13th, 1881, and the deed conveys in fee 13,993 acres, and also mining rights in 7.879 acres additional, the greater part of the lands, over 21,000 acres, being in Elk County. The company also owns some smaller estates in said counties aggregating about 100 acres. The lands are abundantly timbered, and underlaid with coal of excellent quality. Five collieries on the line, with breakers erected on the property, and four saw mills, have been working for some years. The total cost of these improvements was $500,000. The value of the lands, exclusive of improvements, is placed by experts at $750,000. The company receives from the Rochester & Pittsburg Railroad Company an annual rent of $49,800, for the use of part of its track. After payment of operating expenses, taxes and

$180,000 interest on its $3,000,000 bonds, the annual net profits of its business have averaged for three years past over $36,000, available for dividends on its stock. The bonds listed constitute a first lien upon the railroad to the extent of $1,500,000, and also on the lands of the company to the full amount; no other mortgages, purchase money or otherwise, or liens of any description exist. The bonds are coupon bonds of the denomination of $1,000 each, dated May 15th, 1882, maturing May 1st, 1922, bearing interest at 6 per cent., payable May 1st and November 1st, at the office of the New York Lake Erie & Western Railroad Company, in New York.

The road and property of this company are leased to the New York Lake Erie & Western Railroad Company by lease dated August 15th, 1890, for the term of thirty-five years from July 1st, 1890, at a rental equal to the annual interest upon its $3,000,000 of 6 per cent. bonds, but not to exceed $180,000. The Erie Company guarantees the payment of said bonds, principal and interest, by guarantee upon the face of the bonds.

Details relating to the New York, Pennsylvania and Ohio RR. and the Chicago and Atlantic RR. will be found in subsequent chapters. It is not necessary to enter into any details with regard to the leased lines.

CHAPTER XVI.

THE PENNSYLVANIA SYSTEM.

The Pennsylvania is universally regarded as the first and foremost railroad system of the United States. It embraces 7,950 miles of railway and canal, and represents an investment of $700,000,000; it carries 87,000,000 passengers and 130,000,000 tons of freight, yielding a gross revenue of more than $134,000,000 per annum; its lines extend into twelve States and interconnect seven of the most prominent cities of America; it embraces one-twentieth of the mileage operated by all railroads of the United States; and in connection with this last statement there can be no more striking proof of its unique position than the fact that its gross earnings amount to fully one-ninth of those of all American railroads. The Pennsylvania is in every respect the standard railway of America. Its rails and rolling stock, its ballast and bridges, its stations and service are regarded as embodying a state of perfection to equal which should be the highest ambition of every railroad company in the country.

The causes to which the Pennsylvania owes its greatness are: a very favourable geographical situation, a remarkably able management, and exceptionally judicious financing. The company which acquired the original State Railway was composed of Philadelphia financiers who always enjoyed a reputation for the soundness of their principles; its stock was never inflated, nor did it ever become a playball of Wall Street; until recently it was not even quoted in New

York. The company's finances have been conducted on principles more English than American, and the major part of its capital consists of shares and represents actual outlay, in consequence whereof it is surprisingly small, the parent company, which practically controls the entire system of 8,000 miles, having shares and bonds to the aggregate amount of but $200,000,000, only one-third more than the New York Central, its great rival both in business and in point of excellence, which owns a much smaller mileage.

The history of the Pennsylvania RR. requires but very little space; brief reference will be made below to two or three events of interest, and beyond these there is little to record. The company was never embarrassed and always met its obligations. No doubt the story of its growth would be interesting reading to those more deeply concerned in railroads; but that portion of the public for the patronage of which the author caters will find most data it requires in the subjoined tables showing the growth of system, traffic, and revenue, and for that reason the space allotted to this chapter will be devoted to a description of the railroad as it is to-day. It will be most suitable to our purpose to sub-divide the system into three sections: Eastern, Western and Central.

The eastern lines radiate from Philadelphia, the central traffic point of the east. The company divides them into:—

1. New Jersey lines.
2. West Jersey lines.
3. Philadelphia, Wilmington, and Baltimore lines.

The New Jersey lines run into the northern part of that State; the main line terminates at Jersey City, and another connects Trenton with the anthracite district, running along the Lehigh Canal to the Lehigh Valley coalfields, while various branches go to the New Jersey beach, and link together the numerous watering-places on that part of the Atlantic shore. The West Jersey lines are of but local importance, and serve Atlantic City, Cape May, and other parts of Southern New Jersey. The Wilmington and Baltimore lines consist of two main branches, one running into the Delaware Peninsula, the other going to Baltimore, Washington, and Quantico, Va., terminating in the latter place, where it connects with southern lines. These three principal sub-divisions among other connections constitute the main line from New York to Washington, one of the busiest highways of American travel, crossing perhaps the most densely populated district of the States, and having fine stations at almost all points touched. Nowhere in the world is there so comparatively short a line connecting such vast cities. Within five hours one can travel from New York to the national capital, and in this brief space of time see half-a-dozen populous and prosperous cities: New York, with its sister municipalities, has a population of 3,000,000; Trenton of 110,000; Newark of 183,000; Philadelphia numbers 1,100,000 inhabitants; Baltimore 450,000, and Washington 250,000.

Apart from this great highway of travel connecting New York with Washington and intermediate cities there are numerous other lines radiating in all directions and meeting in Philadelphia, or rather in West Philadelphia, where we find the Central Distribution Yards forming the focus of the eastern traffic of the system. From these Yards in West Philadelphia the enormous freight brought from the West along the main line is distributed, and in return the goods which the East and Europe send to the West are collected here.

West of Pittsburg we again find three sub-divisions controlled by the Pennsylvania *Company*.

1. The Northwestern system.
2. The Southwestern system.
3. The Grand Rapids and Indiana System.

The Northwestern system consists of the Pittsburg, Fort Wayne, and Chicago Railroad, which connects Pittsburg with Chicago, and along which the famous Chicago Limited Express runs; from this line four others branch off to Lake Erie points, (Toledo, Cleveland, Ashtabula, and Erie) and traverse the oil region as well as a bituminous coal district. The Southwestern system consists chiefly of the Pittsburg, Chicago, Cincinnati and St. Louis Railroad and allied lines, which in the first place forms a second connection between Pittsburg and Chicago via Columbus, O., and in the second place with St. Louis, partly using for this purpose the Terre Haute and Indianapolis RR.; it also connects with Cincinnati and Louisville, Ky. Beyond these two subdivisions there is the Grand Rapids and Indiana, connecting Richmond on the Southwestern and Fort Wayne on the Northwestern system with the northernmost point of Michigan State. All these lines bring traffic to Pittsburg, carrying to that town the far-western freight gathered in St. Louis and Chicago, lake-borne traffic from Toledo and Cleveland, and the produce of Illinois, Indiana, Ohio and Michigan.

The Central system, connecting Pittsburg with Philadelphia, consists chiefly of the Pennsylvania main line and its ramified connections with Oil City and numerous other points in the oil and mining regions accessible from the main line. Being the only link between the Eastern and Western traffic centres of the system—Philadelphia and Pittsburg—this central system, which is the property of the company while most other lines are leased, is by far the most important portion of the Pennsylvania, and especially because of its vast mineral business has a heavier traffic than any other railway in the country. In 1891 38,000,000 tons of freight were moved over this "Penna. Division," or over 55 per cent. of the tonnage sent over all lines "East of Pittsburgh and Erie." A line connecting Philadelphia with Reading, etc., and paralleling the Philadelphia & Reading, also belongs to this division.

In addition to the railways mentioned above the Northern Central, connecting Baltimore with Lake Ontario, and the Philadelphia & Erie, connecting the anthracite region with Erie on Lake Erie form important parts of the Pennsylvania system.

We now have a complete picture of the vast system called the Pennsylvania. Its western lines connect Chicago, St. Louis, Indianapolis, Cincinnati, Louisville, Columbus, Michigan, and Lake Erie points with Pittsburg. The eastern roads link together all great eastern points by means of seven main lines radiating from Philadelphia and its suburb, Camden; and the central portion unites these two divisions, forming in the meantime new connections with the Lakes, and penetrating into all mining regions of the Keystone State. From this we see that the Pennsylvania has a series of direct connections over its own lines with important points like no second railroad on earth. It carries the produce of the West to the East, and the goods of the East to the West. It transports the coal and iron of Pennsylvania to the 12 States which its lines intersect, and joins Pittsburg, the great "Iron City," to all leading centres of American trade. It receives produce from the West at the Lake points, and from there distributes the goods from the East all over the West. It links together the Atlantic shore and the Mississippi, and joins Lake Michigan with the Delaware and the Ohio Rivers. These numerous connections give the system a variety and a volume of traffic such as no other road possesses. There is, barring the main line of the Pennsylvania RR., not one great railway system in the States which has not a "direction of trade"—one direction in which by far the greater portion of freight is moved. Western lines carry much more freight east than west, and more than two-thirds of the goods on southern lines are shipped north or to the seaboard. The Pennsylvania, however, owing to its vast resources and the variety of industries on its lines, moves as many goods east as west. The trains which carry grain, flour, or cattle from the plains to the centres of population and industry in the East carry back manufactures wanted in the West, and minerals are sent to St. Louis and Cleveland as well as to Trenton and Philadelphia. Herein lies the real strength of the system. Principally in the shape of the steep ridges of the

Alleghanies, nature has placed numerous obstacles in its way, but has made up for so doing by a wealth of endowments and a variety of resources such as no other American railway can boast of. The result of having so vast a field of operations is that the Pennsylvania system is much less influenced by local conditions than any other railroad in the country; being in constant contact with all branches of business, its earnings as a rule are only affected by a general depression of trade, and hence, in the absence of statistics of the nature of the English Board of Trade returns, its monthly traffic statements are the most trustworthy barometer of trade the United States possesses, and as such they are always commented upon by the Press of the Republic. They are divided into earnings of lines east and of roads west of Pittsburgh, and this renders them the more valuable because its eastern lines are mostly in the service of mining, manufacturing and wholesale trade, while agriculture predominates on its western roads. This division is due to the fact that all western lines are supervised by the Pennsylvania *Company*, established in 1870, which is an auxiliary concern of the Pennsylvania *Railroad Company*; but as far as service and traffic is concerned eastern and western lines are one homogeneous whole.

The principal eastern terminus of the Pennsylvania system is in Jersey City, opposite New York, where the company has just completed a large passenger station situated on the river front and connected with various parts of New York and Brooklyn by large double-decked ferryboats belonging to the company; at the same time there is ample accommodation for the freight traffic in the immediate vicinity of the numerous extensive docks of Jersey City. From Jersey City a four-track road runs into Philadelphia along Newark and Trenton, this section serving not only for through traffic between New York and Brooklyn on the one hand

and Philadelphia, Baltimore, Washington, Pittsburg, Chicago, St. Louis, etc., on the other, but also for an immense freight traffic between New York and hundreds of important local points. In West Philadelphia we find the Distribution Yards where through freights to and from the East and the West are gathered together; these yards are commonly regarded as the largest possessed by any one railway in the world. The line, gradually rising above the freight cars, crosses the Schuylkill River, and runs into the very heart of Philadelphia, terminating in Broad Street Station — a splendid red brick structure facing City Hall, and infinitely superior to most of the large European stations. From this point an immense passenger traffic is carried on. In America, where all towns have a tramway system that passes European comprehension, the railroads have no very important suburban traffic, and hence it does not amount to much even in this most extensive of all American cities; nevertheless the number of passengers using this station in the course of a year exceeds 16,000,000 or 45,000 per diem, and these huge figures need cause no surprise, since this is the heart of a system carrying 87,000,000 passengers per annum.

Philadelphia, as is well known, is now the greatest manufacturing centre of the United States, although ten years ago it was surpassed by New York in this respect; its manufactures represent $800,000,000 per annum, and consist chiefly of textiles and machinery, the Baldwin Locomotive Works, which turn out 1,000 engines per annum, being one of the most renowned establishments, not only of "Quaker City," but of the entire country. Above all, however, Philadelphia is, next to Jersey City, the most important port whence coals and iron are carried by vessel to numerous points along the Atlantic Coast, notably to the New England States, while vast volumes of agricultural produce are carried by steamer to Europe. Needless to say the Pennsylvania RR. owns magnificent freight terminals along the front of the Delaware and Schuylkill Rivers.

Leaving Broad Street station we again cross the Schuylkill and pass the large distribution yards, where the lines to the south and north branch off, and soon we travel along the main line of the great route to the West. This is the Pennsylvania division, the principal artery of the giant system to which almost every one of its branches is tributary, and has a heavier traffic than any other line in the country; with an aggregate length (including all branches) of 1,510 miles, traffic in 1890 amounted to 5,039 million ton-miles and 389 million passenger miles—nearly twice the amount of freight carried by the New York Central although but two-thirds of its passenger movement.

The main line was built by the State of Pennsylvania, and operated at a loss until its then engineers bought it in 1857, and formed the present company, which within 35 years developed into the leading railway enterprise of the world. After leaving Philadelphia the railroad constantly rises higher above the sea level and traverses a pretty country studded with gorgeous suburban residences and villas, the number and splendour of which reach their climax in Bryn Mawr, about ten miles west of Philadelphia. Then we approach Chester Valley, a rich agricultural district, the prototype of a well-to-do bit of rural England, whence the first American corn was sent to Europe. It is still a prosperous country, but the enormous production of the West has caused the centre of American grain trade, once to be found among these hills, to move hundreds of miles further on towards the Mississippi. Soon we cross Conestoga Creek and pass Lancaster, and then we meet the sentries of the Alleghanies, long ridges running parallel from north to south, until we reach Harrisburg, the capital of the commonwealth of Pennsylvania, situated on the Susquehanna, a picturesque and foaming river. From Harrisburg a line of railroad branches off to Gettysburg, the famous battlefield of the Civil War, to which thousands of tourists flock annually. Beyond Harrisburg the road follows the

Juniata River to the main ridge of the Alleghany Mountains. Before the railroad was built people travelled from Harrisburg to Pittsburg along canals and a portage railroad crossing the ridge on inclined planes; there are still people living who remember this curious traffic. The canal barges were taken to pieces and put upon trucks, which were drawn across the mountain by a clever adaptation of the laws of gravitation. When the railroad was completed (in 1854) this kind of locomotion ceased, and now the iron track winds its way through the grand scenery peculiar to these ridges, climbing picturesque mountains and descending into charming valleys. The railroad constantly reaches a higher level, and as we speed along its well-ballasted tracks we meet numerous long trains going eastward. A hundred and thirty-five miles west of Harrisburg, after a journey of six hours from Philadelphia, we arrive in Altoona, a town with 30,000 inhabitants, which to the Pennsylvania Railroad is what Derby is to the Midland Railway and Crewe to the London and North-Western. The city owes its origin, growth, and subsistence entirely to the railroad which has its works there and employs nearly 6,000 workmen in its vast establishments. Here the cars bound east, which come down the mountain by their own gravitation, are weighed while in motion, and westbound trains are pulled up the gradient by powerful engines, three or four of them being sometimes coupled together. About 4,000 cars daily pass along Altoona. The workshops are the most extensive in America, occupying a space of 131 acres. In them 150 engines and 5,000 cars are built annually, and 40,000 vehicles repaired. These figures may be astonishing, but I have been favoured with some statistics still more stupendous. The system has nearly 3,000 locomotives and over 100,000 cars in constant use, and its rolling stock, if placed in line, would reach from Philadelphia to Cincinnati, a distance of about 700 miles. Altoona itself speaks highly of the organising spirit characteristic of the management of this company, and does credit to the great corporation that created it. Although nearly the entire male population consists of workmen, the dwellings are exceptionally neat, and mostly owned by the well-paid artisans, who acquired them by gradual payments.

The Alleghany Mountains form one of the few great geological features of the United States. For 800 miles this range of mountains runs from north to south, reaching from the northern part of New York State into Alabama, and running almost parallel with the Atlantic shore, from which it is separated by a broad stretch of fertile soil, irrigated by the streams that run from the eastern slopes of the mountains into the Atlantic. On the western side we find hundreds of great and small rivers flowing towards the Ohio, whose yellow waters join the Mississippi in Cairo. The geological formation of this long mountain range is rather remarkable because the latter chiefly consists of a series of parallel ridges, of high and steep mountains and deep, narrow, intervening valleys, all running from the north to the south. Here and there a river has succeeded in breaking a "gap" through the ridges, and these gaps, as well as the banks of the streams, were usually taken advantage of by the engineers who built the road.

As soon as we leave Altoona the engine commences to climb the steep grade of Alleghany Mountain, an elevation which gives us an opportunity of seeing the serene grandeur and supreme beauty of the landscape which gradually unfolds itself as we approach the summit, until the entire region we have traversed since we left Altoona lies below like a huge panorama, its numerous verdant ridges dwindling small below and its colours gradually passing from the brilliant green of the foreground to the hazy blue of the horizon. Before we reach the summit we pass the famous Horseshoe Curve, where the railway makes one of the most remarkable bends in the United States in order to reach a higher level. When we approach the top of the mountain the train darts into Summit Tunnel, and when we emerge from this fine achievement of engineering skill, built at a height of 2,001ft. above Altoona level, we are on the western slope of the Alleghanies, and begin to descend gently towards the Ohio. Directly after leaving the tunnel the road meets a very insignificant rivulet, which runs into the Conemaugh, and, traversing the valleys of Ohio and Mississippi, the waters of this little mountain stream are carried a distance of upwards of 2,000 miles before they reach the Gulf of Mexico. The line keeps close to the Conemaugh, crossing and recrossing that beautiful and lively stream; and, traversing one of the most charming landscapes in all America, we gradually approach Pittsburg, its black veil of smoke becoming visible long before the first, tall smoke-stacks can be singled out on the horizon. We pass Cresson springs, a famous summer resort on the top of the mountains, noted for its mineral waters and pure air, and visited by thousands of tourists. Then we ride along the famous Cambria Iron Works, near Johnstown, a town destroyed a few years ago when the dam of the Conemaugh gave way, but now entirely rebuilt. These iron works are the largest of their kind in America, and employ 8,000 people. They consume about 450,000 tons of iron ores, 800,000 tons of coal and coke, and 175,000 tons of limestone annually, and convert these materials into 300,000 tons of steel, 350,000 tons of pig-iron, half as much steel rails, and a large quantity of wires; and supply a vast amount of freight to this railway. Soon after passing Johnstown we enter the region of natural gas, and if we pass this line at night we see numerous torches fed by this peculiar gift of nature which, on account of the cheap fuel it makes, has done so much to place the Western Pennsylvania industries at an advantage over all others in America.

Pittsburg lies at the confluence of the Alleghany and Monongahela rivers, which at their junction form the Ohio.

Both rivers are crossed by numerous bridges, and between the two lies the thriving and prosperous Iron City, with its 300,000 inhabitants, the numerous manufactories extending far beyond the two rivers. Between the great iron, steel, and glass factories from which large quantities of smoke and steam rise, while the deafening sounds of huge steam-hammers and other noisy machinery fill the air, we perceive numerous railways with their blowing whistles and ringing bells, the whole scene forming a huge Forge of Vulcan. The rectangular streets, some of which are very handsome, swarm with busy life, and on the rivers we see hundreds of flat-bottomed barges, which carry the manufactures of the great city along the Ohio to all navigable tributaries of the Mississippi.

Pittsburg counts among its numerous prominent citizens two whose names are known all the world over — Carnegie and Westinghouse. The former is the greatest ironmaster of the States, and one of her wealthiest citizens. In Europe the latter is chiefly known on account of the air brake bearing his name, but in Pittsburg his fame rests on a triple foundation. He owns, firstly, his railway appliances works; secondly, an extensive electric light plant; and in the third place, he has been the foremost among those who introduced natural gas for lighting and manufacturing purposes, and he is the inventor of numerous ingenious appliances for the purification and supply of this cheap and wonderful fuel.

Natural gas has been the greatest blessing bestowed upon this city. The principal organisation for the distribution of this fuel, the Philadelphia Company, works with a capital of about $8,000,000 and provides 400 manufactories and 8,000 dwellings with natural gas. Apart from being cheaper than coals its heating power is much larger, 7½ft. of gas being equal to 1lb. of coal. Although the gas is found throughout the north-west part of New York State, Western Pennsylvania, and Eastern Ohio, it is nowhere as plentiful as near

Pittsburg, where, in spite of the decrease in the pressure at some wells, it is still in universal use. It gives great heat, no ashes, and no smoke, and as coals can be dispensed with it saves much labour and wages, one man in the gasroom of a manufactory being able to do the same amount of work that 20 stokers and coal-carriers did formerly. Moreover this gas is cheap. About 8 cents per 1,000 feet (equal to 133lbs. of coal) used to be the charge, but now the gas is not paid for by measure, the annual payment being simply regulated by the output of the various works.

Beyond the natural gas there are numerous oil fields in this region, which also contribute to the unbounded prosperity of Pittsburg. Whether the supply of both will last for many years to come it is impossible to say. Some wells have gone on pouring out their oil and gas for years, without apparent decrease of pressure; others have been abandoned already. But gas, oil, and especially coal and iron are as yet plentiful, and their presence has caused Pittsburg to become the Birmingham of America, and made it one of the most famous industrial centres. Naturally the heavy freight it provided attracted many railroads, but the Pennsylvania has succeeded in retaining the lion's share of all traffic, and with its seven lines centreing there practically enjoys a monopoly; none of the other trunk lines, except the aggressive Baltimore and Ohio, has a direct entrance into the town, and to no small extent this is due to the influence the powerful corporation has always exercised over the State and Municipal Governments. I have already had occasion to quote the saying that "the Penna. Company runs the Harrisburg Congress as successfully as it does its trains"; and it is owing to this political influence that the company until recently succeeded in keeping the Pittsburg traffic all to itself, that it is the only line traversing Pennsylvania in the direction of trade (from East to West and *vice versa*), that the Baltimore and Ohio had to fight in Congress for 15 years before it could enter Philadelphia and thus establish a second route between that town, Washington, Baltimore and New York, and that it prevented the Reading RR. from getting a new station until at last President McLeod obtained permission to build one in the heart of the town. Although still strong the legislative influence of the company, like that of other corporations, is on the wane; and it is presumably with an eye to this fact that President Roberts in the last annual report enumerates the manifold blessings which his company undoubtedly bestowed upon Pennsylvania and Philadelphia.

With regard to the "Lines West of Pittsburgh" it is not necessary to dwell upon their characteristics or importance, because the former may be inferred from a subsequent chapter dealing with the Central States while the latter is indicated by the statistics and statements below.

The Pennsylvania system of to-day is a consolidation of more than two hundred smaller companies, the majority of which were purchased, either outright or at sale in foreclosure; nevertheless a considerable part of the system is not absolutely owned by the company. The Pennsylvania RR. Company proper operates the United RR. of New Jersey, the West Jersey RR., and the Baltimore and Wilmington lines; other parts of the system East of Pittsburgh and Erie are controlled through ownership of stock. The lines West of Pittsburgh are either leased or partly owned by the Pennsylvania *Company*, a corporation with $20,000,000 shares, owned entirely by the Penna. *Railroad* Co., and $23,200,000 bonds. Condensed details of the principal subsidiary companies are given at the close of the present chapter, and their relation to the parent company as well as the total mileage of the entire system is indicated in the following table: —

Company.	*Miles Operated.*	*Relation to Penna. RR. Cy.*
Pennsylvania Division	1,510	Property; some leased branches.
Alleghany Valley RR.	259	Through ownership of shares and bonds.
Baltimore & Potomac RR.	96	„ „ „ „
Camden & Atlantic „	82	„ „ „ „
Cleveland & Pittsburgh „	224	„ lease to Penna. *Company.*
Cumberland Valley „	165	„ ownership of shares.
Grand Rapids & Indiana „	581	„ „ „ „
Northern Central „	382	„ „ „ „
Phila. Wilm. & Balt. „	648	„ „ „ „
Philadelphia & Erie „	287	„ lease to Penna. RR.
Pittsb. Clev., Chic., & St. L. „	1,556	„ ownership Penna. *Comp.*
Pittsb, Ft. Wayne & Chic. „	497	„ lease to Penna. RR.
United RR. of New Jersey „	450	„ lease & ownership.
West Jersey RR. West Jersey & Atlantic	222	„ „ „ „
Four coal comp. and several canals		owned, leased or operated.

The following tables give details of freight and passenger traffic since 1865, on *lines owned and leased East of Pittsburg.*

Table showing freight movements, earnings and rates for a number of years on the Lines East of Pittsburg and Erie:—

Year.	*Tons.*	*Million Tons One Mile.*	*Earnings.*	*Expenses.*	*Earnings per Ton per Mile.*	*Net Earnings per Ton per Mile.*
			$	$	*Cents*	*Cents*
1865	3,090 681	452	12,277,490	10,610,867	2.715	0.368
1870	7,041,688	1,014	15,252 314	9,871,625	1.503	0.520
1875	15,772,722	2,026	22 807,060	14,362,136	1 126	0.417
1880	26,051 091	3,239	29,750 291	17,490,054	0 918	0 378
1881	30,895,376	[illegible],631	31,128,521	18,773,989	0.857	0 340
1882	34,181,016	3,911	34,205,306	21,685,852	0 874	0.320
1883	35,681,662	4,059	35,764,506	22,807,403	0 881	0 319
1884	36,632,571	4,134	33 242 301	21,399 835	0.804	0 289
1885	39,481,365	4 443	30 895,747	20,435,253	0 695	0 235
1886	42,833,499	4,584	34 623,877	22 566,389	0 755	0.263
1887	50,033 297	5,214	38,080,623	25,912,845	0 730	0 233
1888	55,708,046	5,706	40,175,773	27,944,386	0 695	0.211
1889	58,373,489	6 170	42,302,176	29,182,898	0.686	0 213
1890	66,648 730	6,094	45,783,507	32,404 550	0 655	0 192
1891	67,501,265	7,119	46,650,184	not stated	0 650	0 202

Table showing passenger movement, earnings and rates for a number of years on the Lines East of Pittsburg and Erie.

Year.	Passengers.	Million Passengers One Mile.	Passenger Earnings.	Passenger Expenses.	Earnings per Pass. per Mile.	Net earnings per Pass. per Mile.
			$	$	Cents.	Cents.
1865	3,611,086	·232	6,376,079	4,303,071	2.748	0.893
1870	5 014,924	169	4,364,481	3,611 554	2.568	0.443
1875	14,456,864	344	8,957,619	6,191,289	2.573	0.774
1880	16,575,042	382	8,504,387	6,407,692	2.222	0 548
1881	18,985,409	446	9,602,768	7,207,500	2 152	0.537
1882	21,887,992	496	11,160,816	8,252,561	2.249	0.586
1883	25 081,856	505	11,695,253	8,215,365	2.297	0.671
1884	25,164,131	512	11,562,196	8,314,566	2 258	0 637
1885	27,642,018	568	11,087,445	8,337,776	1.950	0.484
1886	31,090,271	576	12,194,890	9,292,392	2.114	0.503
1887	35 785,700	657	13,968,909	10,363,715	2.125	0.548
1888	38,168,374	682	14 259,507	10,517,506	2.092	0.549
1889	40,189,893	727	15,140,342	11,106,425	2.082	0 555
1890	43,810,382	779	16,177,151	11,710,227	2.077	0.573
1891	44,810,727	795	16,962,289	not stated	2.054	0.454

These tables, like most similar statistics relating to other railways, show an immense growth in traffic. From 1875 until 1891 the number of passengers increased over 200 per cent., the volume of freight more than 300, although mileage rose scarcely forty; yet this expansion of business was in a measure offset by the decline in rates, which show the usual fall, so that profits on passenger business shrunk 24 p. c., while on freight they fell 42. Nevertheless the following tables show that net earnings East of Pittsburg since 1875 have undergone no considerable alteration per mile of road, while West of Pittsburg they unmistakably have a tendency to improve.

Table showing length, gross earnings, expenses and net earnings from traffic on Lines East of Pittsburg and Erie OPERATED DIRECTLY *by the Pennsylvania RR. Company.*

Year.	*Length.*	*Gross Earnings.*	*Expenses.*	*Net Earnings.*
	Miles.	*Million* $	*Million* $	*Million* $
1865	—	19,5	14,9	4,6
1870	—	20,6	13,6	7,0
1875	1,565	34,5	21,1	13,4
1880	1,810	41,2	24,6	16,6
1881	1,890	44,1	26,7	17,4
1882	1,961	49,0	30,6	18,4
1883	2,102	51,0	31,7	19,3
1884	2,267	48,6	30,5	18,1
1885	2,316	45,6	29,4	16,2
1886	2,387	50,4	32,6	17,8
1887	2,412	55,7	37,0	18,7
1888	2,435	58,2	39,3	18,9
1889	2,456	61,5	41,0	20,5
1890	2,500	66,2	44,9	21,3
1891	2,573	67,4	45,9	21,5

Statement showing earnings and expenses on all lines West of Pittsburg for twenty years.

	Length.	*Gross Earnings.*	*Expenses.*	*Net Earnings.*	*Net per Mile.*
	Miles.	*Million* $	p. c.	*Million* $	$
1875	3,071	25,1	68·10	8,0	2611
1876	3,071	24,6	68·70	7,7	2,508
1877	3,407	27,3	66·18	9,2	2,718
1878	3,535	28,1	66·05	9,5	2,704
1879	3,546	30,7	61·23	11,9	3,364
1880	3,546	35,7	61·80	13,6	4,151
1881	3,422	37,0	66·39	12,4	3,649
1882	3,222	35,3	66·14	11,9	3,713
1883	3,231	36,1	69·12	11,1	3,432
1884	3,223	31,3	70·40	9,2	2,873
1885	3,266	30,0	70·40	8,9	2,724
1886	3,322	33,5	67·48	10,8	3,319
1887	3,325	40,9	66·04	13,6	4,116
1888	3,366	37,8	72·27	10,5	3,095
1889	3,406	40,9	68·24	12,9	3,816
1890	3,480	45,2	68·30	14,3	4,111
1891	3,502	44,1	66·90	14,6	4,168

The following statement indicates the magnitude of the operations on the entire system.

Table showing (in millions) the movement of freight and passengers, and total earnings on the entire system during the year 1891.

	East of Pittsburg.	*West of Pittsburg.*	*Total system.*
Tons moved	92 43	37 55	129.99
„ „ one mile	8553·38	3732·33	12285.71
Passengers carried	68·68	18.25	86.93
„ „ one mile	1201·89	441.02	1642.91
Gross earnings *from traffic*	$90.04	$44 21	$134 25
Operating expenses	$62.25	$29·56	$91.81
Net *traffic* earnings	$27 79	$14 64	$42.43
Mileage (incl. canals)	4,457	3,502	7,959

This table is especially instructive because it shows the vast difference between business on the Eastern and Western sections. On the former there is a large mineral and passenger traffic; on the latter agricultural freights preponderate, and the density of population being much smaller than near the seaboard, passenger traffic reaches but one-half the figure of the East.

The following statements show amount of gross earnings, expenses, and net earnings on all lines belonging to the Pennsylvania system in 1891, and rentals where paid:—

Statement showing the gross earnings, expenses, rentals, profits, or losses on all roads operated *by the Pennsylvania* Railroad *Company, for the year ending December 31st, 1891.*

Roads.	*Length in Miles.*	*Gross Earnings.*	*Working Expenses.*	*Net Earnings.*	*Rentals Paid.*
		$	$	$	$
Pennsylvania Railroad, Leased Branches	552·66	32,879,853	20,877,289	12 002,563	134,258
Pennsylvania Schuylkill Valley RR.	120·19	1,751,326	1,219,350	531,976	531,976
Downingtown and Lancaster RR.	37 98	60 241	79,948	Loss, 19 707	—
Pomeroy and Newark RR.	26 70	23,213	49 837	Loss, 26 624	—
Columbia and Port Deposit R. W.	43·53	375,318	187,974	187,344	187 344
Hanover and York RR.	18·35	84,746	55,187	29 560	29,560
Littlestown RR.	9·30	23,399	21,186	2,213	2,213
Frederick and Pennsylvania line RR.	28 00	56,818	57,566	Loss, 747	—
Mifflin and Centre County RR.	12·43	65,716	35,644	30.071	30 071
Sunbury and Lewistown R. W.	43 45	423,354	198,264	225.000	225 000
Bedford and Bridgeport RR. (January to April inc.)	40 17	115,097	75,325	39,772	39,772
Bedford and Bridgeport R. W. (May to December inc.)	—	252,307	174,112	78,195	78,195
Lewisburg and Tyrone RR.	85 08	198,501	176,724	21,776	21,776
Bald Eagle Valley RR. (P. R. R. Div portion)	81·23	622,692	358,642	264,050	249 077
Tyrone and Clearfield R. W.	120 51	569,089	585,637	58 452	112,500
Tipton RR.	4·44	5,817	2,178	3,639	3 639
Cambria and Clearfield RR.	40·18	91,701	56,417	35,283	35,283
Ebensburg and Cresson RR. (January to June inc.)		9,342	7,525	1,817	1,817
South Fork RR. (from August 15th)	7·93	1,934	5,894	Loss, 3,960	—
Western Pennsylvania RR.	116 10	1,704,092	1,074,834	629,257	629,257
South West Pennsylvania R. W.	104·88	911,206	537,455	373,752	373,752
Turtle Creek Valley RR. (from Sept. 29th)	6·44	1,162	2,724	Loss. 1,561	—
Pittsburg, Virginia and Charlest R. W.	75·43	1,159,614	774,009	385,605	385,605
McKeesport and Bessemer RR. (from July 20th)	1 47	9,932	10,451	Loss, 518	—
Philadelphia and Erie RR.	287·56	5,201,361	3,347,859	1,853,501	1 853,501
Sunbury, Hazleton and Wilkesbarre R. W.	43·44	544,785	314.391	230,393	230,393
North and West Branch R. W.	47 82	821,462	506.281	321,181	321.181
Nescopec Railroad	11·06	62,522	53,248	9,274	9,274
Bald Eagle Valley RR. (P. & E. Div portion)	9 45	19,642	13,852	5,789	5,789
Susquehanna and Clearfield RR.	24·89	29,561	25,633	3,928	3,928
Ridgway and Clearfield RR.	27 23	247,796	137,994	109,802	109,802
Johnsonburg RR.	19 09	87,629	74,232	13,396	13,396
United New Jersey Railroad and Canal Comp.					
Railroad	187·95	16,367,836	12,848,681	3,519,155	4,2[illegible]6,017
Canal	66 00	400,174	363,224	36,940	
Perth Amboy and Woodbridge RR.	6 40	128,294	61.798	66,496	66,496
Millstone and New Brunswick RR.	6·64	9,599	18,650	Loss, 9,051	—
Rocky Hill RR. and Kingston Branch.	6·54	4,679	10.987	Loss, 6,307	1,222
Belvidere Delaware RR.	81 82	1,208,467	899.321	309,146	309,146
Bustleton RR.	4 16	10,568	18,109	Loss, 7,540	—
Phila., Germantown and Chestnut Hill RR.	6·75	248,754	162,417	86 336	86,336
Freehold and Jamesburg Agricultural RR.	27 54	160,168	113,116	47,051	47,051
Columbus, Kinkora and Springfield RR.	14·16	25,007	27,355	Loss, 2,347	—
Philadelphia and Long Branch RR.	49·11	78,736	124.910	Loss, 46,174	—
Long Beach RR.	20 50	10.239	28.374	Loss, 18,135	—
Camden and Burlington County RR.	29·61	273,176	209,389	63,787	44,415
Vincentown Branch	2·84	2,263	5,524	Loss, 3,261	900
Mount Holly, Lumberton and Medford RR.	5·95	7,625	13,927	Loss, 6,301	11,169
Totals	2,573·46	$67,428,840	$45,947,446	$21,479,[illegible]	$10,662,182

Net profit after deducting rentals	—	$10,997,263
Add interest received from investments Pennsylvania Railroad Co.	—	4,852,181
Add interest received from investments and rents of United New Jersey Railroad and Canal Co.	—	497,416
Add interest for use of equipment loaned to branch and other roads,	—	395,390
Add interest general account	—	191,781
Add Empire Line net earnings	—	83,176
		$17,017,160
From which deduct—Interest on bonded debt	$3,649,575	
Interest Pennsylvania Company for Insurances on Lives, &c. Stock Trust Certificates	318,240	
Interest, Car Trusts	521,129	
Interest on mortgages and ground-rents,	110,708	
Premium on exchange, commissions, &c.,	6,930	
Balance of payments on account of joint guaranty with Northern Central Ry Co. on lines north of Elmira, and miscellan. accounts	7,399	
State tax on capital stock and bonds	431,339	
		5,045,318
Available Revenue (See Income Account)	—	$11,971,842

Statement of gross earnings, expenses, net earnings, and rentals, on the Lines West of Pittsburg, from January 1st to December 31st,

Length. Miles.		*Gross Earnings.*	*Working Expenses.*	*Net Earnings.*	*Rental and Interest.*
		$	$	$	$
......	Proprietary Department—Pennsylv Co.	2,291,027	316,325	1,974,702	988,580
......	Union Line Bureau—Pennsylvania Co...	575,501	390,878	184,623	—
469 89	Pittsburg, Ft. Wayne and Chicago Railway	11,659,143	7,480,583	4,178,560	3,232,422
12·23	Massillon and Cleveland Railroad	10,592	10,455	137	20,000
14·98	New Castle and Beaver Valley Railroad.	160,066	109,769	50,297	67,626
27·87	Pittsburg, Youngstown and Ashtabula RR.	1,299,096	768,906	530,190	189,800
101·21	Erie and Pittsburg Railroad	694,740	494,697	200,042	401,767
223·98	Cleveland and Pittsburg Railroad	3,429,277	2,265,480	1,163,797	1,178,592
86 48	Toledo, Walhonding Valley and Ohio RR.	460,240	372,239	88,001	—
10·25	South Chicago and Southern RR	32,965	24,701	8,263	6,150
3·18	State Line and Indiana City Railway.	10,396	15,574	Loss, 5,177	—
133 10	Indianapolis and Vincennes Railroad..	473,928	405,793	68,134	208,120
428 27	Grand Rapids and Indiana Railroad...	2,404,951	1,710,162	694,788	825,831
36·85	Muskegon, Grand Rapids and Ind. RR...	180,706	118,155	62,550	42,044
26·00	Traverse City Railroad	43,497	35,326	8,170	7,500
85 60	Cincinnati, Richmond and Ft. Wayne RR.	452,068	330,227	121,840	158,909
1141·83	Pitts., Cin., Chicago and St. Louis Railway	14,901,754	10,939,808	3,961,946	2,545,396
23·48	Chartiers Railway	273,091	135,525	137,565	35,000
28·15	Waynesburg and Washington Railroad	60,279	45,317	14,961	6,923
28·04	Pittsburg, Wheeling and Kentucky Railroad	245,929	168,386	77,542	28,813
148·45	Cincinnati and Muskingum Valley Railway	465,260	395,281	69,978	105,000
196·19	Little Miami Railroad	2,070,746	1,743,787	326,959	694,126
158·30	St Louis, Vandalia and Terre Haute RR.	1,826,022	1,213,326	612,696	547,806
12 01	East St. Louis and Carondelet Railway.	92,891	62,219	30,671	17,500
3·27	Ohio Connecting Railway	83,743	12,463	71,279	30,000
2·35	Englewood Connecting Railway	3,364	3,982	Loss, 618	—
3501·96	Totals	44,210,283	29,569,378	14,640,905	11,332,860

Profits 1891	$3,419,534
Losses 1891	756,564
Net profits 1891	$2,662,970

For the sake of completeness I subjoin also a

Summary of operating results of the three grand divisions East of Pittsburgh and Erie in 1891.

	1891.	1891.
	$	$
Earnings.—From freight traffic	46,650,184 10	——
From passenger traffic	16,962,269.82	——
From express traffic	1,218,453.25	——
From transportation of mails	1,253,067.89	——
From miscellaneous sources	695,507 26	——
From rents	247,184.31	——
From Delaware and Raritan Canal	400,174.18	——
Total earnings	——	67,426,840.81
Expenses.—For conducting transportation	19,544 371.59	——
For motive power	12,023,517.88	——
For maintenance of cars	5,430,475.30	——
For maintenance of way	7,678,355.52	——
For general expenses	907,499.53	——
For Delaware and Raritan Canal	363,224.80	——
Total expenses	——	45,947 444.62
Net earnings from operation	——	21,479,396.19

Below are statements showing share capital, funded debt, income and expenditure, assets and liabilities of the Pennsylvania *Railroad* Company.

Ordinary share capital ($50 shares)		$129,771,200
Funded debt:—	$	
Navy yard mortgage registered bonds, 5 per cent., due 1901	1,000,000.00	
* Consolidated mortgage bonds, 6 per cent., due 1905	27,480,020.00	
* General mortgage bonds, 6 per cent., due 1910	19,997,820.00	
* Consolidated mortgage bonds, 5 per cent., due 1919	4,998,000.00	
* Collateral trust loan, 4½ per cent., due 1913	9,900,000.00	
Equipment trust gold loan, 4 per cent., due 1914	2,791,000.00	
P. W. & B. R. R. stock trust certificates, 4 per cent., due 1921	7,900,000.00	
Mortgages and ground rents payable	3,014,286.39	
		77,090 126
Total share & bond capital		$206,861,326

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* Quoted in London.

(Annual meeting second Tuesday in March. Interest payable in Philadelphia or at London Agency (Mr. T. W. Powell, 1, Drapers Gardens, E.C.)

The following statement shows the detailed income account of the Pennsylvania *Railroad* Company for the years 1889, 1890 and 1891, the "net income" given in the first line being the amount of income after deducting interest payments, rentals, &c. (Copied, by permission from the *Chronicle.)*

INCOME ACCOUNT.

	1891. $	1890. $	1889. $
Net income Penn. RR. Division	12,257,432	11,030,401	10,870,351
Net loss or gain on Un. N. I. Div	−276,456	+396,885	−138,712
Loss on Phila. & Erie Div	9,135	1,644	16,316
Balance	11,971,841	11,425 642	10,992,747
From this balance deduct—			
Payments to trust funds	98,622	93 498	87,433
Consol. mort. sinking fund account	324,780	324,800	324,800
Alleghany Valley RR.—Deficiency	274,062	119,005	160,179
Penn. Canal on acc't of interest	——	——	188 510
Am. SS. Co. guar. interest	——	——	45,000
Extraordinary expenses not properly chargeable to capital	1,510,758	1,632,024	1,590,913
	2,208,222	2,169,327	2,396,835
Balance to credit of income after deducting all payments	9,763 619	9.256.315	8,655,912
Dividends	7 495,598	6,241,873	5,327,270
Rate of dividend	(6)	(5½)	(5)
Balance to credit of profit and loss account for year	2,268,021	3,014,442	3,328,642
Balance in settlement of claims and old accounts, &c	+49,019	——	+119,370
Balance	2 317,040	3,014,442	3,448 012
Expenses acc't of floods, June, '89, debited to profit and loss, &c	——	1,064,704	2,609,325
	2,317,040	1,949,738	838,687
Add profit and loss Jan. 1	22,017,793	20,068,056	19,229,368
Balance profit and loss Dec. 31	24 334,833	22 017,794	20,068 055

GENERAL BALANCE DECEMBER 31.

Assets.

	1891. $	1890. $	1889. $
Construction, equipment etc., railroads between Philadelphia and Pittsburgh ..	101,884,163	93,955,788	90,204,216
Cost of bonds of railroads................	38,049,144	37,615,878	35,919,813
Cost of stocks of railroads................	68,021,735	66,982,746	66,106,632
Cost of bonds and stocks and investm'ts not otherwise enumerated	8,528,902	8,585,100	7,808,471
Managers of Trust created by Penn. RR. Co. Oct. 9, 1878	4,159,193	4,065,695	3 978,261
Penn. RR. consol. Mort., less redeemed and cancelled..................................	2,268,700	1,943,920	1,622,030
Insurance fund.............	10,000	10,000	10,000
Mortgages and ground rentals............	31,450	50,250	68,150
Freight balances due.	———	565,163	205,190
Securities of United N. J. Comp's, transferred with lease...............	3,733,445	3,733,445	3,774,895
Equipment of United N. J. Co.'s, transferred with lease................................	853 626	931,922	1,008,346
Fuel and materials on hand...............	4,314,050	4,563,173	4,030,595
Bills and accounts receivable, and amounts due from other roads, including advances, viz:			
United N. J. RR. & Canal Co.— Construction......	3 795,604	3,795,604	2,923,999
Sinking fund and redemption.........	2,350,700	2,237,780	2,122,460
Real estate....	2,194,650	2,056 301	1,873,062
Phila. & Trenton—Construction.... ..	1,299,478	1,299,478	1,233,682
Real estate	326,530	289,109	272,606
Other companies	13 587 321	15,697,302	13,897,554
Cash balance in London.................	1,220,331	1,123,809	1,220,716
Cash in hands of agents.................	2,989,295	2,739,152	2,976,741
Cash in hands of Treasurer...............	7,109,552	6 212,720	4,788,330
Total..	266,727,871	258,454,348	246,043,759

Liabilities.

	1891. $	1890. $	1889. $
Capital stock................................	126,771,200	123,082,050	113,488,600
Funded debt.................................	66,166,840	66,307,840	67,208,165
Mortgages and ground rents...............	3,014,286	3,084,286	2,923,381
Penn. Co. for insurance on lives etc. "Trust certificates.".....	7,909,000	7,915,000	8,060,000
Har. Pt. Mt. J. & Lan. stock, guaranteed..	1,182,550	1,182,550	1,182,550
" " 4 p.c. bonds, guaranteed...	700,000	700,000	700,000
Passenger balances due other roads.......	———	995,352	974,339
Freight balances due other roads..........	1,018,796	440 963	———
Payments for leased equipment..	161,000	80,500	———
Pay-rolls and vouchers	6,849 610	7,382,425	6,611,328
Cash dividend unpaid......................	89,271	72,791	127,189
Dividend scrip and unpaid interest........	95 686	1,280	1,272
Sandry accounts due other roads..........	15,127,798	12,651 078	12,431,843
Securities of United N. J. Co's transferred with the lease..	3,733,445	3,733,445	3,774,895
Equipment of United N. J. Co.'s transferred with lease.........	853,626	931,921	1,008,346
Fund for purchase of securities guar. (trust of Oct. 9, 1878)........	4,257,815	4,159,193	4,065,695
Trustees of consol. mort....	421 433	———	———
Consol. mort. bonds sinking fund.........	4,040,680	3,715 900	3,391,100
Balance to profit and loss.................	24,334,834	22,017,794	20,068,056
Total.......................................	266,727,871	258,454,347	246,043,759

Subjoined are details relating to the principal companies subsidiary to the Pennsylvania RR. Company, showing their relation to the system, etc. Many of the following data are derived from the *Investor's Supplement* of New York *Chronicle*, by kind permission of the publishers of that excellent journal.

ALLEGHENY VALLEY RAILWAY.

The lines of this company have a total length of 250 miles. The main line, 132 miles long, runs from Pittsburg to Oil City along the right bank of the Allegheny river and traverses the oil region; a branch of 110 miles goes to Driftwood, Pa., where it meets the Philadelphia & Erie, also belonging to the Pennsylvania system.

The company was reorganized in March, 1892, and was formerly known as the Allegheny Valley *Railroad* Company, which went into receivers' hands in May, 1884. After seven years of litigation it was sold in foreclosure on Dec. 15, 1891, subject to the mortgage bonds of 1866 and 1870. It is controlled and operated by the Pennsylvania RR. Co., to which it owed over $6,000,000. In conformity with the plan of reorganization a new general mortgage of $20,000,000 four per cent. bonds is issued, principal and interest guaranteed by the Pennsylvania Railroad. Of these bonds $17,100,000 (being the principal and 8 per cent. additional of the prior liens not divested) are reserved to take up these liens as they fall due, and $1,000,000 are held to meet future requirements of the company, while the balance of $1,900,000, is used in the reorganization. Stock authorized, $30,000,000, of which $18,000,000 is cumulative 3 per cent. preferred. The Pennsylvania RR. Co. received $10,000,000 preferred and $8,251,050 common stock, and of the preferred stock $15·4 millions has been issued, of the common $10·5 millions.

The Pennsylvania RR. Co. guarantees to purchase the interest on the 7 per cent. 1st mortgage of 1870. The Pennsylvania RR. Co., the Northern Central Ry. and the Philadelphia & Erie RR. are guarantors on the 5 per cent. loan of 1870.

In 1891 gross earnings were $2,548,794; net, $1,026,853. In 1890, gross, $2,592,101; net, $1,124,651.

BALTIMORE & POTOMAC RR.

This is a very important line, connecting with Southern lines and with the national capital; it runs from Baltimore to Washington, D. C., Pope's Creek, Md., and Quantico, Va., and its total length is 96 miles. Capital: $1,500,000 6 pct. gold bonds, $3,000,000 6 pct. gold bonds, and $3,000,000 5 pct. gold general mortgage bonds. Of the general mortgage $10,000,000 is authorized, to retire other bonds when due in 1911. Stock: $4,914,250 (in $50 shares) of which the Pennsylvania through the Phila., Wilmington & Baltimore RR. Co., (*q. v.*) owns $4,081,000, the Northern Central $622,850. The Pennsylvania also owns all consol. mortg bonds now issued. Earnings in 1891 were $1,808,245 gross, net $475,410, balance $19,857; net earnings 1890, $464,403.

CAMDEN & ATLANTIC RR.

This line connects Camden, opposite Philadelphia, with Atlantic City, a favoarite summer resort on the ocean, much frequented by Philadelphians, and has one short branch; total length 83 miles. Stock amounts to $378,100 common and $830,000 preferred non-cumulative 7 pct.; of both descriptions Penna. RR. owns the majority. Dividends on common stock: 3 pct. in 1880, none since; on preferred 3 in 1890, none since; funded debt amounts to $1,587,000 5 and 6 pct. bonds; Company owes lessee $250,000. Earnings 1891: gross $800,970, net $151,718; surplus after fixed charges $25,245, against $12,126 in 1890.

CLEVELAND & PITTSBURG RR.

This company owns the important branch of the Penna. RR. which connects Pittsburg with Cleveland on Lake Erie, and forms part of the "Fort Wayne Route" to Chicago. Total length 224 miles. The company operates the following lines: Main line from Cleveland, O., to Rochester, Pa., 124 miles; branches—Bayard, O., to New Philadelphia, 31 miles; Yellow Creek to Bellaire, 43 miles; trackage, Rochester to Pittsburg (Pittsburg, Fort Wayne & Chicago), 26 miles; total operated, 224 miles. The property was leased for 999 years from December 1, 1871, to the Pennsylvania Railroad Company, and the lease transferred to the Pennsylvania Company in 1872. The rental amounts to 7 per cent. on existing capital and $10,000 per annum for expenses, the lessee assuming all liabilities. The share capital consists of $11,247,314 on which the Pennsylvania Company guarantees 7 pct., the bonded debt aggregates $5,595,000. In 1891 a general mortgage for $10,000,000 was authorized, the bonds being guaranteed as to principal and interest and endorsed by the Pennsylvania RR. Comp. There is a sinking fund, but no bonds of this issue can be called for payment.

For the year 1891 the gross receipts were $3,434,252. In 1890 the loss to the lessee was $2,517, against a deficit of $229,740 in 1889.

CUMBERLAND VALLEY RR.

This company owns lines from Harrisburg to Winchester, Va., connecting with Southern lines. Total length of owned, leased and controlled lines, 165 miles. It leases—Cumberland Valley & Martinsburg Railroad, 34 miles; Dillsburg & Mechanicsburg Railroad, 9 miles; Southern Pennsylvania Railroad, 21 miles; controls Mont Alto Railroad, 18 miles, but accounts are kept separate; total controlled and operated, 165 miles. The stock is $1,292,950 common, $241,900 first preferred and $243,000 second preferred; $975,800 common and $237,200 preferred being owned by Pennsylvania Railroad Company. The 1st and 2nd mortgage bonds amount to only $270,500. Large advances have been made to branch roads. The Southern Pennsylvania is leased for net earnings; no interest has been paid on the bonds of this company since March, 1875, the company being allowed to deteriorate; see p. 130.

Dividends: in 1880 to 1884, 10 per cent yearly; from 1885, to Jan., 1892, both inclusive, at rate of 8 per cent. per ann. In 1891 gross earnings on the main line were $863,298; net $189,108; surplus over fixed charges, $155,553, against $219,980 in 1890.

NORTHERN CENTRAL RR.

The Northern Central is one of the most important parts of the great system, directly interconnecting Baltimore, Harrisburg, the coal region and Lake Ontario. The company owns lines from Baltimore, Md., to Sunbury, Pa., 137 miles; and branch Hollins to Green Spring Junction, 9 miles; it leases the Shamokin Valley & Potsville Railroad, 30 miles; and the Elmira & Williamsport Railroad, 76 miles; and operates the Elmira & Lake Ontario Railroad, 100 miles; the Summit Branch Railroad, 20 miles; and 3 miles of the Pennsylvania Railroad; total operated, 382 miles. In addition uses New York, Lake Erie & Western tracks, 7 miles, and Philadelphia & Erie tracks between Sunbury and Lewisport, 40 miles, and owns Union Railroad, 9 miles, and $622,850 stock of the Baltimore & Potomac RR. Co. The Pennsylvania Railroad owns $3,488,950 of its stock ($50 shares) which amounts to $7,518,150; the funded debt of this corporation reaches 16¾ millions, consisting of various descriptions of four, five, and six per cents., and the company also guaranteed certain Allegheny Valley securities (see that company), and in the reorganization in 1892 received some of its stock and bonds.

Dividends since 1880 have been—In 1881, 5 p. c.; in 1882, 6 p. c.; from 1883 to 1890 inclusive, 8 p.c.; in 1887, 8 p.c. in cash and 10 p.c. in stock; in 1888, 7 p.c.; in 1889, 8 p.c.; in 1890, 8 p.c.; in1861, 7 p.c.; in Jan., 1892, 4 p.c.

Revenue and expenditure for the last four years ending December 31st., were:—

	1891.	1890.	1889.	1888.
Revenue—	$	$	$	$
Gross earnings	6,820,568	6,608,797	6,069,956	6,203,394
Net earnings	1,903,346	1,687,038	1,944,356	2,109,821
Other receipts	377,181	522,951	307,628	251,125
Total income	2,280,527	2,209,989	2,447,728	2,417,449
Expenditure—	$	$	$	$
Rentals, &c.	440,461	475,572	464,870	470,706
Interest on debt	914,001	924,039	931,481	926,505
Dividends	(7)526,263	(7)526,260	(8)571,975	(8)571,966
Miscellaneous	229,558	226,654	293,828	79,495
Total disbursements	2,110,283	2,152,526	2,262,155	2,048,672
Balance, surplus	170,244	57.462	185,573	368,776

PHILADELPHIA & ERIE RR.

This company, formerly known as the Sunbury & Erie RR. Company, connects the coalfields with the city of Erie on Lake Erie; it has been leased to the Pennsylvania Railroad for 999 years, and actual net receipts are paid as rental. The general mortgage is guaranteed by the Pennsylvania Railroad Company which owned (December 31, 1891) $3,501,800 common and $2,400,000 preferred stock and $3,823,000 general mortgage bonds, and the city of Philadelphia (sinking fund) $2,250,000 common stock. Capital stock—Common, authorized, $10,000,000; outstanding, $7,975,000; preferred, special, 7 per cent., $2,400,000; par, $50. Funded debt $19,720,000, consisting of 4, 5, 6, and 7 per cent. bonds to be exchanged gradually for 4 per cent. general mortgage bonds, of which $4,775,000 are issued. A dividend of 2 per cent. was paid on common stock in March. 1892.

The reports for 1888—90 show earnings, etc.. as follows:—

	1891.	1890.	1889.	1888.
	$	$	$	$
Gross earnings	5,201,361	5,113,767	4,689,137	4,373,042
Expenses (incl. all taxes)	3,516,391	3,415,595	2,928,744	2,733,088
Net earnings	1,684,970	1,698,192	1,760,393	1,639,954
Total net income	1,702,965	1,716,440	1,778,573	1,655,850
Interest on debt	1,042,470	1,034,470	1,034,470	1,168,176
Interest on special stock	168,000	168,000	168,000	168,000
Interest on equipment	156,003	183,614	174,920	168,404
Extraordinary expenses			323,331	
Organization expenses	8,000	8,000	8,000	8,000
Total disbursements	1,374,473	1,394,084	1,708,721	1,512,580
Surplus	328,512	322,356	69,851	143,270

PHILADELPHIA, WILMINGTON & BALTIMORE RR.

This also is a most important part of the Pennsylvania system. It connects Philadelphia with Baltimore, numerous points in Maryland, and, indirectly through the Baltimore & Potomac RR. with Washington and Southern connections. Its lines consist of the following parts: Philadelphia, Wilmington & Baltimore Rail road, 133 miles; Philadelphia & Baltimore Central, 83 miles; Delaware Railroad 100 miles; Queen Anne & Kent Railroad. 26 miles; Delaware & Chesapeake, 54 miles; Cambridge & Seaford Railroad, 27 miles; Delaware, Maryland & Virginia Railroad, 98 miles; other mileage, 130; total operated, 648 miles. The company practically owns all the stock of the Philadelphia & Baltimore Central. The bonds are all to be secured by any mortgage which may be issued on the road.

From 1868 to 1887, inclusive, dividends of 8 per cent. were paid; in 1888 and 1889, 7; in 1890, 6; in 1891, 6; in Jan., 1892, 4. In April, 1881, almost the entire stock was purchased by Pennsylvania Railroad Company, $10,890.950 of it being now held by that company. The stock amounts to $11,819,350, and various descriptions of "plain bonds," aggregating $5,500,000, are issued.

In year ending October 31, 1890, gross earnings were $6,820,377; net, $1.570,202; surplus over fixed charges, $1.020,772; dividends, $709,161. In 1890-91 gross earnings, $7,194,998; net, $1,901,876; surplus above charges, $1,020,961; dividends, $827,354; surplus, $193,627.

UNITED NEW JERSEY RR. & CANAL Co.

This company controls a most important portion of the Penna system, including the main line from Philadelphia to New York (Jersey City). Among the other lines of this system there is one running from Perth Amboy to Camden, opposite Philadelphia, formerly the famous "Camden and Amboy," and there are also branches to Long Branch, Berkeley N. J., and to Manunka Chunk, Pa.; total mileage 450 miles. The principal lines owned directly are from Jersey City to Trenton, 56 miles, and from Camden to South Amboy, 61 miles; 9 branches, 29 miles; total (owned directly) 146 miles. This company also owns the Delaware & Raritan Canal, 66 miles long. Among the lines leased are the Philadelphia & Trenton and the Belvidere & Delaware. The company's property was leased in May, 1871, to the Pennsylvania Railroad for 999 years, at a rental of 10 per cent. on the stock, besides interest on bonds. The Pennsylvania Railroad owns $1,350 000 stock, of which $21,240,400 is outstanding.

The general mortgage of April 20, 1871, is for $20,000,000 and secures qually all bonds though issued at different dates. The 6 per cent. bonds due in 1894 were plain bonds merely until secured by this indenture.

In 1891 gross earnings were $18,995,592; net, including income from investments, $4,587,220, against $5,134,976 in 1890. Net loss to lessee in 1881, $302,864; in 1882, $568,759; in 1883, $635,914; in 1884, $593,598; in 1885, $159,496; in 1886, $179,016 in 1887, $227,991; in 1888, $160,501; in 1891, $276,455. Net profit in 1889, $138,712; in 1890, $396,885. On Dec. 31, 1891, the sinking funds held securities of par value of $4,343,000 and cash uninvested $91,318; the direct loss of the Pennsylvania on this lease, connected with the guarantee of the unusually high dividend of 10 per cent. on the common stock, is largely made up for by indirect gains.

THE WEST JERSEY RR.

The lines belonging to this company connect Camden, N. J., opposite Philadelphia with various seaside resorts, notably Cape May, Bridgeton, Riddleton, Sea Isle, Ocean City, &c., and are 182 miles long; the company operates West Jersey & Atlantic Railroad (see below), 40 miles; total operated 222 miles.

Sinking fund of $12,500 yearly for bonds of 1896 is invested in company's bonds and bonds of the Pennsylvania system, and $709,100 were so held January 1, 1891. Stock authorised, $5,350,000 of which $2,204,000 are issued.

Dividends since 1880—In 1881, 4 p.c.; from 1882 to 1884, inclusive, 3 and 3 scrip; from 1885 to 1887, inclusive, 6; in 1888, 6½; in 1889, 7; in 1890, 7; in 1891, March 3½ in scrip; September, 3½ cash; in 1892, March, 3½. The scrip issued as dividend in March, 1891, does not bear interest, but is redeemable in cash and is convert ble into stock at par.

Earnings, including those of leased lines, have been as follows:—

	1891.	1890.	1889.	1888.
Gross earnings	$1,658,090	$1,633,745	$1,526,169	$1,556,033
Total net income	450,998	522,917	455,072	529,250
Interest, rentals, &c.	233,552	251,237	248,933	289,407
Dividends	(7) 150,640	(7) 148 217	(7) 148,217	(6½) 138,082
Balance, surplus	$66,806	$123,463	$57,922	$101,761

West Jersey & Atlantic.—Owns Newfield, N. J., to Atlantic City, N. J., 33 miles; Pleasantville & Ocean City RR., 7 miles; total, 40 miles. Opened June 17, 1880, and operated by West Jersey RR. on a joint traffic agreement and 25 per cent. of gross receipts on West Jersey from traffic of this road to be applied to any deficit in interest and then as sinking fund for bonds purchasable at 105, or drawn at 100, if over 105. Last dividend was 2 per cent. in September, 1890. In 1891 net earnings were $26,322; interest, etc., $20,333; balance, $5,989. In 1890 net earnings were $43,043; interest, etc., $18,914; dividends, $40,342.

The foregoing are the principal lines East of Pittsburg leased or controlled. For the sake of completeness I have added the following table showing the amount of coal mined and sold by four mines operated by the Pennsylvania RR. Cy., with the price received for same at point of sale:—

	Tons Mined. 1891.	*Tons Sold.* 1891.	*Amounts received at points of Sale.* 1891.
Susquehanna Coal Company	1,409,489 09	1,457,106 19	$4,182,568 50
Summit Branch Railroad Co.	356,720 08	360,346 18	1,209,731 62
Lykens Valley Coal Company	268,076 08	274,939 17	935 108 66
Mineral RR. and Mining Co.	503,644 05	466,267 12	1,351,180 80
Totals	2,507,930 00	2,558,751 06	$7,738,099 58

The average receipts per ton at point of sale, aggregating the results of the four coal companies for 1891, were $3.02, as against $3.07 in 1890. Operations resulted in a deficit of over $600,000 in 1891, against $96,000 in 1890.

THE PENNSYLVANIA COMPANY.

This corporation, not to be confounded with the Pennsylvania *Railroad* Company, was chartered by the Pennsylvania Legislature in 1870, and operates all the leased lines West of Pittsburg. All its stock, amounting to $20,000,000 and $2,500,000 4½ per cents, is owned by the Pennsylvania Railroad Company. The funded debt consists of $20,828,000 bonds, of which $19,467,000 are 4½ per cent. gold, the rest 6 per cent., and besides these $1,830,000 of 6 per cents. and $533,000 of 4½ per cents. are held in the sinking fund.

The 6 per cent. bonds are secured by deposit of $4,000,000 of Pittsburg, Fort Wayne & Chicago special stock, the gold bonds due in 1921 by a deposit in trust of the leases of the Pittsburg, Fort Wayne & Chicago and the Cleveland & Pittsburg railroads, and are also guaranteed by the Pennsylvania Railroad Company.

The whole number of miles operated or controlled by this Company is 4037—directly 1,138.

The following roads constitute the system of lines West of Pittsburg, operated either directly by this company or through their own organizations, on Dec. 31, 1891:—

Leased and Operated directly by Pennsylvania Company—	*Miles.*
Pittsburg, Fort Wayne & Chicago Railway	469·9
South Chicago & Southern Railroad	10·2
State Line & Indiana City Railway	3·8
Calumet River Railway	4·4
Massillon & Cleveland Railroad	12·2
New Castle & Beaver Valley Railroad	15·0
Pittsburg, Youngstown & Ashtabula Railroad	125·2
Erie & Pittsburg Railroad	84·5
Cleveland & Pittsburg Railroad	198·3
Toledo, Walhonding Valley & Ohio Railroad	80·0
Indianapolis & Vincennes Railroad	133·5
	1,136·3
Operated through their own organizations—	
Pittsburg, Cincinnati Chicago & St. Louis Railway Company	1,006·0
Operated by Pitts. Cin. Chic. & St. Louis Railway Company:—	
Chartiers Railway	23·4
Pittsburg, Wheeling & Kentucky Railroad	26·0
Little Miami Railroad	192·0
Englewood Connecting Railway	2·3
St. Louis, Vandalia & Terre Haute RR., operated by Terre Haute & Indianapolis Railway Company	158·3
Cincinnati & Muskingum Valley Railway	148·5
Waynesburg & Washington Railroad	28·1
East St. Louis & Carondelet Railway	12·0
Operated by Grand Rapids & Indiana Railroad Company:—	
Cincinnati, Richmond & Fort Wayne Railroad	86·6
Ohio Connecting Railway	3·3
	[illegible]

The following statements of operations for 1890 and 1891 have been published:—

	1891. $	1890. $
Total earnings of the Pennsylvania Company on lines operated directly by it	21,105,977	21,498,991
Expenses	12,655,405	13,584,873
Leaving net earnings	8,450,572	7,914,118
From this deduct:		
Rental, interest and liabilities of all kinds chargeable thereto	6,724,634	6,832,160
Net profit on Pennsylvania Company's lines	1,725,938	1,081,958

	1891.	1890.
	$	$
Revenue—		
Net earnings Union Line Bureau	114,623	160,719
Rent of Steubenville Extension	61,932	61,934
Received for rent of real estate	10,507	7,870
Received for rent of equipment	233,741	256,251
Profit operating P. Ft. W. & C. RR.	946,138	915,047
Profit operating New C. & B. V. RR.	......	13,148
Dividends on stocks	1,285,604	677,527
Interest on bonds	699,244	646,809
Interest on general account	......	38,554
Total revenue	3,421,789	2,767,949
Disbursements—		
General expenses	78,885	76,782
Interest on car trusts	213,695	218,119
Interest on 6 p.c. registered bonds	88,530	99,120
Interest on 4½ p.c. bonds	900,000	843,750
General interest	23,745	......
Loss in operating Erie & Pittsburg RR.	201,724	267,705
Loss in operating Cleveland & Pittsburg RR	14,795	2,517
Loss in operating Mass. & Clev. RR.	19,863	14,962
Loss in operating New C. & B. Val.	8,329	......
Advances to Ind. & Vincen. RR	138,548	160,846
Advances to Cin. Rich. & Ft. W. RR.	7,736	2,186
Total disbursements	1,695,850	1,685,989
Balance surplus	*1,725,939	1,081,960

The income account has shown the following results after payment of all charges: deficit in 1884 of $710,220; deficit in 1885 of $1,094,671; deficit in 1886 of $200,674; in 1887, net profit, $675,516; in 1888, loss, $74,891; in 1889, net profit $727,802; in 1890, net profit, $1,081,958; in 1891, net profit, $1,725,938.

Subjoined are details relating to the two principal parts of the system operated by this company.

PITTSBURG, FORT WAYNE & CHICAGO RR.

Along this route the major part of the Pennsylvania's passenger traffic with Chicago and Toledo, and a vast and growing goods traffic is carried on. The company in its original form was sold in foreclosure in 1861, and reorganized in 1862. Seven years later it leased its road in perpetuity to the Penn. RR. at a rental equivalent to first charges and 7 per cent. on $19,714,286 stock, which was increased at that time from $11,500,000. The lessee keeps the road in repair and also pays taxes, expenses, &c. The rental and interest charge is about $3,146 053 per year, and the profit to lessee has been large. The road is now operated by the Pennsylvania Company. The company leases the Newcastle & Beaver Valley, 15 miles, and the Massillon & Cleveland RR., 12 miles, both operated by the Pennsylvania RR.

The first mortgage bonds are in six series of $875,000 each, lettered A to F inclusive. The second mortgage is also in six series of $860,000 each, lettered G to M inclusive (J omitted). The Penna. pays $104,100 yearly into the sinking fund, and if bonds cannot be purchased, funds accumulate. Of the 1st mort gage bonds $1,996,000 and of the second mortgage $2,411,000, and $1,707,316 cash, were held in the sinking funds January 1, 1892. The special improvement stock is issued to Pennsylvania RR. for improvements, &c., under article 16 of lease, which provides that the lessor may issue special bonds or stock. Of this stock the Pennsylvania RR. on January 1, 1892, owned $1,472,512.

In 1889 gross earnings were $10,862,899; net income, $3,901,661; profit to lessee, $756,811. In 1890 gross, $12,020,934; net, $4,061,100; profit to lessee, $915,047. In 1891 gross $11,659,144; net $4,178,560; profit to lessee $946,138. In Chicago the Fort Wayne uses the Union Station, together with the Burlington, St. Paul, and other Northwestern connections.

PITTSBURG, CINCINNATI, CHICAGO & St. LOUIS RR.

The lines belonging to this company, (apart from constituting a second route to Chicago, running South of the Fort Wayne,) connect the Pennsylvania system with St. Louis and indirectly with Louisville. The company embraces the following lines: From Pittsburgh, Penn., via Columbus, O., to Chicago, Ill., 504 miles; Rendcomb Junction (near Cincinnati) to Anoka Junction, Ind., 166 miles; Logansport Ind., to Illinois State Line, 60 miles; Bradford Junction, O., to Indianapolis, Ind., 104 miles; Indianapolis to Jeffersonville (opposite Louisville, Ky.), 109 miles; branches, 138 miles; total owned, 1,081 miles. Trackage: Lake Erie & Western, Indianapolis to Kokomo, Ind., 55 miles; Louisville Bridge Co., 2½ miles; terminal tracks in Columbus and Indianapolis, 1 mile; Cin. Ham. & Dayton RR., 1½ miles; total trackage, 60 miles. Total system proper, 1,141 miles.

Leases: Chartiers Railway, 23 miles; Little Miami and dependencies, Cincinnati, O., to Springfield, O., 84 miles, and Columbus, O., via Dayton, to Richmond, Ind., 112 miles; Pittsburg, Wheeling & Kentucky, 28 miles; Cincinnati Street Connecting Railway, 3 miles; Englewood Connecting Railway in Chicago, 2 miles; other lines, 4 miles; also has a joint interest with Terre Haute, & Indianapolis of the "Big Four" in the St. Louis, Vandalia & Terre Haute, from the Indiana State Line to East St. Louis, 158 miles; total leased, 415 miles. Grand total, 1,556 miles.

The P., C., C., & St. L. RR. Co. was formed in 1890 by consolidation of the Chicago, St. Louis & Pittsburg, the Jefferson, Madison & Indianapolis, the Cincinnati & Richmond, and the Pittsburg, Cincinnati & St. Louis, and is controlled by the Pennsylvania Co. through ownership of stock.

The stock authorized is: Common, $45,000,000; preferred, $30,000,000; par, $100 There were to be issued in the consolidation about $23,000,000 of preferred stock and $21,000,000 of common stock, in exchange for the stock of the constituent companies on the following basis: Pittsburg, Cincinnati & St. Louis Railway first and second pref. and common to receive of new preferred $100 for two shares ($50 each) of old stock; Chicago, St. Louis & Pittsburg Railroad preferred to receive $66.66 new preferred and $33.34 new common for each $100 share of old stock; Chicago, St. Louis & Pittsburg old common to be exchanged for new common share for share; Jeffersonville, Madison & Indianapolis Railroad stock to receive $50 new preferred and $50 new common in exchange for each $100 old stock. New common stock for $4,600,000 was given for accumulated and unpaid dividends on the first preferred stock of the Pittsburg, Cincinnati & St. Louis Railway. On Dec. 31, 1891, there was outstanding $21,541,666 common stock and $22,344,693 of preferred. In Feb., 1892, a stockholder of the Pittsburg Cincinnati & St. Louis who declined to come into the consolidation had his stock valued at $65 per share by a board of arbitrators. The case has gone to the Supreme Court.

The preferred stock is "non-cumulative and entitled to a dividend of 4 per cent. per annum out of the net earnings as declared by the Board, with the right after 3 per cent. has been declared on the common to an additional 1 per cent., making 5 per cent in all." After 5 per cent. has been declared in any year on both common and preferred, the two stocks share equally.

Dividends on preferred: In 1891, May, 1 per cent.; November, 2 per cent.; in 1892, March, 2 per cent.

On Jan. 1, 1892, the Pennsylvania Railroad Company owned $3,100,450 preferred stock and $5,944,000 Chicago, St. Louis & Pittsburg consols.

A consolidated 4½ per cent. mortgage for $75,000,000 has been created, $37,190,000 being reserved for the prior lien bonds. Bonds to the amount of $41,850,000 are outstanding, mostly 4½ per cent. gold, and $65,000 Cincinnati, Richmond & Chicago matured second mortgage bonds and $797,315 of 4 and 5 per cent. car trusts are also outstanding.

	1891.	1890.
Miles operated (system proper)	1,142	1,144
	$	$
Gross earnings	14,895,591	15,452,932
Operating expenses	10,939,808	11,465,489
Net earnings	3,955,783	3,987,443
Per centage of operating expenses to earnings	72·13	74·20

INCOME ACCOUNT.

	1891.	1890.
Receipts—		
Net earnings, including other income	3,961,946	3,991,889
Net earnings of L. Miami and ⁵/₇ profits of St. Louis, Vandalia & Terre Haute	367,171	387,185
Total	4,329,117	4,379,074
Disbursements—		
Interest on bonds	2,358,025	2,564,390
Rentals paid	802,053	833,655
Car trusts (including interest)	144,826	155,412
Interest on L. Miami securities transferred	97,444	79,444
Dividends on preferred	(3)869,574	
Miscellaneous	7,736	71,199
Total	4,061,658	3,704,100
Balance, surplus	267,459	674,974

	1891.	1890.
	$	$
Total earnings of the Pittsburg, Cincinnati, Chicago and St. Louis Railway Company on lines operated directly by it	18,092,338.48	17,578,629.8
Expenses	13,451,736.89	13,003,955.17
Leaving net earnings	4,640,601.59	4,574,674.67
From this deduct—		
Rentals, interest, and liabilities of all kinds chargeable thereto	4,021,944.08	3,683,991.79
Net profit on Pittsburg, Cincinnati, Chicago and St. Louis Railway Company's lines	618,657.51	890,682.88

GRAND RAPIDS & INDIANA RR.

This line connects the Pennsylvania system with Muskegon on Lake Michigan, and with Mackinaw, Mich., a town connected by *ferry* with the "Soo" line. The company owns from Fort Wayne, Ind., to Mackinaw City, 367 miles; Manistee

Branch, 25; other branches, 40 miles; total owned, 432 miles; leases and operates Cincinnati, Richmond & Fort Wayne RR., 86 miles; Traverse City RR., 26 miles; Muskegon, Grand Rapids & Indiana RR., 37 miles; total, 581 miles.

The Grand Rapids & Indiana Railroad is operated in the interest of the Pennsylvania Railroad Company, which holds the right to vote a majority of the stock until July 1, 1941. Of the original $5,375,000 1st mortgage 7 per cents. $3,934,000 were guaranteed by that company and $4,430,000 were land grant bonds. The capital stock is $4,986,000 on which no dividend is earned. The bonded debt amounts to $15,300,000, mostly bearing 5 and 6 per cent. interest, but partly 4½, the company having recently agreed to extend all its 7 per cent. first mortgage bonds at 4½ per cent. for fifty years from July 1. The extended bonds are endorsed with the guaranty of the Pennsylvania Railroad Company to purchase the coupons as they mature, and the bond itself at maturity, if not paid by the Grand Rapids company. The extended bonds will have no lien on the land grant.

The company has a land grant, and sold in 1891 21,422 acres for $191,094 and certain timber rights for $161,500. The lands unsold on January 1, 1892, were 98,422 acres. The assets comprise $1,229,771 bills receivable, etc., and $779,789 cash.

The reports for the past four years show results as follows:—

	1891.	1890.	1889.	1888.
Miles operated	432	428	408	409
	$	$	$	$
Gross income	2,400,414	2,602,415	2,291,166	2,232,788
Net over expenses & taxes	694,788	859,382	766,714	704,191
Interest on bonds	751,929	739,700	737,425	719,428
" on floating debt	52,186	58,630	54,553	47,443
Rentals and miscellaneous	208,431	30,760	3,168	17,138
Total	1,012,546	129,090	795,146	784,009
Balance	df 317,758	sur. 30,292	def. 28,433	def. 79,817

CHAPTER XVII.

THE BALTIMORE AND OHIO SYSTEM.

There are many railways in the United States which are either too small or lack the necessary connections with important points to become factors in through traffic, and it has become customary for roads so situated to enter into close traffic agreements with other railroads, and to form "lines." These agreements are made both for freight and passenger business. Recently a "freight line" (the Cumberland Gap Express) was established between New York and Texas, which availed itself of steamers to Norfolk and of the Norfolk and Western, Louisville and Nashville, and several other railways which, but for a similar arrangement, could scarcely have had a share in the traffic between Texas and the East. Of a passenger "line," the compact between the Chicago and Northwestern, Union Pacific, and Central Pacific forms a very good example. These three railways have well-nigh monopolised passenger traffic between Chicago and San Francisco because, on the strength of an agreement, through trains are run from Lake Michigan to the Golden Gate. The advantages of a similar arrangement are obvious. A small railway, by becoming part of a "line," becomes part of a through route and receives through freight and may gain access to important points resulting in a considerable increase of its traffic.

By arranging for a through line with the Reading and Jersey Central systems the Baltimore and Ohio obtained an entrance into Jersey City, as a result of which it receives a large share of the traffic between the West and New York, and especially between Washington, Baltimore, Philadelphia, and the Eastern metropolis. Before through trains were run between these four important points, the change of cars which was necessary caused the Pennsylvania RR. to monopolise through traffic along this busy route, and even freight traffic along that which now is the "Royal Blue Line" was impeded. The close compact between the B. & O. and the Reading, however, changed matters, and, by giving the former terminal accommodations on the Hudson River, this connection has done much towards the improvement of the business of the B. and O. Yet Baltimore remains its principal eastern terminus, where the cars meet the vessels, and where the contents of the trains are stored in huge elevators at Canton and Locust Point and the Basin, all near the mouth of the Patapsco River, on Chesapeake Bay. Baltimore offers great facilities for navigation, and various lines of steamers run to the leading ports of Europe, while there is a considerable coasting trade. The city is no great manufacturing centre, but it has an extensive trade in groceries, tobacco, hardware and dry goods with the South and West, which brings a great amount of prosperity to a population numbering about 470,000.

It was this trade which created the Baltimore and Ohio Railroad. American towns are very jealous of each other, and this feature, although it frequently manifests itself in numerous ludicrous and childish outbursts of local patriotism, has among its various good results this, that it causes constant improvements. The supremacy as a trade centre was long contested between Philadelphia and New York, and Baltimore vigorously competed with these two cities. In 1825 the Erie Canal was opened with great pomp, and from the day on which the first barge went from Lake Erie to New York, and a barrel of lake water was emptied into the Atlantic, the struggle was decided in favour of New York, which at once began to get the lion's share of the trade with the West. Thus the denizens of Baltimore saw that something ought to be done to promote the importance of their town as a trade centre, and in February, 1827 twenty-three leading citizens met and resolved to build an improved "railway" to Wheeling on the Ohio, this river being a key to the entire valley of the Mississippi before the days of railways. This project, originally conceived, it is said, by George Washington, was acted upon at once and a charter obtained, while from the outset it received the support both of the City of Baltimore and of the State of Maryland, although the public at large does not seem to have approved of this aid; at least, in the John Hopkin's University Library of Baltimore one finds numerous proofs of the public disapproval of this first instance of State-aid in railroad building which has set a precedent for all later cases. The public at large was against financial support and against all powers which now-a-days are granted to railways as a matter of course. "Why, sir," exclaimed the Speaker of the Maryland State Congress when he listened to the demands of the company's attorney, "you are asking for more than the Lord's Prayer." "That may be, your Honour, but I ask for nothing which is not necessary for progress and prosperity in the State and the city," replied the lawyer; whereupon his Honour said, "Go on, then, in God's name." The railroad company was endowed with almost arbitrary powers, and construction begun at once. The road consisted of iron-plated wooden rails, along which tramcars "ran at the marvellous speed of nine miles an hour." Soon after its inauguration sails were tried, but as no control of the elements could be obtained, this means of locomotion was speedily abolished. I was introduced to an old gentleman who witnessed the trial trip of these sailing cars, and could give many details relating to them. The Russian Ambassador, who at the time travelled on one of these conveyances, was so highly pleased that he ordered every member of the Embassy to have a ride on them, and Muscovite enthusiasm rose to such a climax that the sailroads were introduced in the Northern Empire. In Baltimore, however, they were abolished, and soon after people rode by steam from Liverpool to Manchester locomotive engines were ordered from England. But these engines played havoc with the iron-plated wooden rails, and in consequence a road with sleepers, and 10lb. rails (the present ones are 60-80lbs.) was built. The first train dashed along at the rate of 10 miles an hour, and the Baltimore *American* in 1835 published one of its heaviest "leaders," eulogising this achievement of human genius, and saying, "We doubt not that before long this unprecedented rate of speed will be raised to 18 and even 20 miles an hour, and that the journey to the Ohio will be performed some day in twenty-four hours." At present one may breakfast in the "Monumental City" and enjoy his dinner while seated at a window overlooking the Ohio River.

In these early days of railroading, and among events chronicled in language which must seem rather grotesque to *fin de siècle* people, the Baltimore and Ohio was built. It was not intended to compete with the Erie Canal, connecting, as it did, with quite a different region. The canal communicated with the Lakes, but the railway connected the East with the South-West, and the vast and fertile country intersected by the numerous navigable tributaries of the "Father of Streams." There can be no doubt as to which of the two, the canal or the railway, was the most important and gave the greatest promise to the State which projected it: but for the subsequent extensive introduction of railways with steam traction the B. and O. might have made Baltimore the leading city of the States, because the grand system of rivers, unequalled by any other, would have poured all its freight into Baltimore along the great artificial highway created by patriotic Marylanders. As the result of the rapid growth of the railroad system, and the rise of Chicago, however, the B. and O. became but one of the many great highways of trade linking the East to the West, and its Ohio connection lost much of its value. It could no longer subsist on mere Ohio river traffic, but like the other trunk lines went far beyond its original scope, and progressing in the same degree as cultivation of the fertile soil of the Central States and the commercial importance of the West advanced it gradually penetrated into the traffic centres of the West, at the same time extending towards the South. To-day the Baltimore and Ohio lines connect Baltimore and Washington with Philadelphia, New York, Pittsburg, Cleveland, Chicago, Columbus, Cincinnati, St. Louis, and Lexington in Virginia.

The following is a summary of the lines now constituting the Baltimore and Ohio system:—

Main stem and branches	733·8	miles
Philadelphia division	124·5	„
Pittsburg division	337·8	„
New York division	5·5	„
Trans-Ohio system	724·0	„
Baltimore & Ohio Southwestern RR.	287·0	„
Pittsburg & Western RR.	398·0	„
Ohio & Mississippi RR.	636·0	„
Total system	3,346·6	„

Of these parts the main stem and branches as well as the Philadelphia, Pittsburg, New York and Trans-Ohio divisions are directly operated by the B. & O., although not entirely owned. The B. & O. Southwestern and Pittsburg & Western are controlled through ownership of stock; the Ohio and Mississippi was obtained control of in the latter part of 1891.

The Reading, along which the „Royal Blue Line" conducts its traffic, runs almost by the side of the Pennsylvania, and therefore connects Jersey City, Newark and Trenton, with Philadelphia. The Reading track, on which the American record of railway speed was made, is undoubtedly one of the finest pieces of roadbed in the country, and the Baltimore main lines, which begin at a very pretty new station in Philadelphia, situated on Chestnut street and the Schuylkill river, are in very good condition too, while the line, owing to its intimate relations with the Baltimore Belt RR., has superior accommodations in Baltimore, although the expansion of business has rendered an immediate increase of terminal facilities in that city most desirable, if not highly necessary.

After leaving Baltimore the railroad runs in a southwestern direction towards the national capital, a distance of 40 miles; about midway a line branches off to Annapolis, the old State capital, and soon after we have passed this junction the beautiful white marble dome of the Capitol and the slender Washington Column become visible above the trees. The track, which has traversed a bluff country, passes into a tunnel, and soon after emerging enters the magnificent station at the corner of New Jersey avenue and C. street, N.W., one block from Capitol Hill. This station occupies a splendid site, but not more favourable than the Pennsylvania RR. terminus hard by on Pennsylvania avenue. In Baltimore the B. & O. has got the best of its great competitor; having great influence with the Maryland Legislature it could repay its powerful rival for some of the obstructions by means of which it was so long kept out of Philadelphia, and for the efforts to prevent its coalition with the Reading. But Washington being situated in the small District of Columbia, which is ruled by a Committee of Congress, the Pennsylvania and Baltimore roads got equal accommodation there.

The American national capital is a beautiful town, and some travellers do not hesitate to pronounce it the most magnificent city in the Western hemisphere. Scores of millions of dollars have been expended upon grand edifices, monuments, and improvements; and its Capitol, that glorious Republican palace, is a building equalled by no other modern structure. The Post Office, Patent Office, Treasury, Government buildings, parks, and museums, offer no end of architectural and historical attractions, while near by, in Mount Vernon, the greatest of all Americans lived and was buried. Hence myriads of visitors annually flock hither, and as all B. and O. through trains between East and West run via Washington, numerous people prefer this route, although it makes a detour, and in spite of its through passenger service being not quite as excellent as that of the Pennsylvania and New York Central railroads.

From the national capital the road, as it mounts the Alleghanies, follows the Potomac river for many miles and traverses these ridgy mountains in their most beautiful parts, a fact which has given this line the name of "picturesque B. and O." The main line runs to Cumberland, where it forks off in two branches which unite again in Wheeling on the Ohio. The northern line runs to Pittsburg, the mining region south-east of it, and Johnstown, Pa; the southern is part of the main and original road to Wheeling. It passes Grafton, whence it sends another line to the Ohio, terminating at Parkersburg and meeting the Baltimore and Ohio South-Western, the connection with Cincinnati, which joins the Ohio and Mississippi Railroad, a railway recently re-conquered by the B. and O. and forming a direct connection for St. Louis. The main line crosses the Ohio at Wheeling and runs to Newark (O.) bends north to Chicago Junction (O.) and then turns west to Chicago. At Newark a branch to Columbus (O.) leaves the main line, and from Columbus the Cincinnati & Columbus Midland RR., leased by the B. and O., runs to Cincinnati, so that the line practically has two routes to that city, one via Cumberland, Wheeling, Newark and Columbus, the other via Cumberland and Parkersburg. Apart from these main lines there are three Lake Erie connections, the most important of these being the Valley Route to Cleveland, which gives a good mineral traffic to and lake freights from that thriving city; the other consisting of a small line from Chicago Junction to Sandusky, which connects with a line of steamers to Duluth and the

Northwest, partly controlled by the B. and O. A third Lake Erie point, Fairport, is reached by the Pittsburg and Western, the control of which was acquired in February, 1891, when the B. and O. bought $6,000,000 of its common stock, and paid for it with its own shares. This Pittsburg and Western is of great importance to the B. and O. because it gives access to the oil country and because it may in due course connect with Buffalo, from which its Mt. Jewett branch, a narrow gauge line, is but 90 miles distant now. The new acquisition is, however, principally valuable because it gives a connection between Pittsburg and Chicago Junction, whereby a shortened route from the East to Chicago is obtained, so that through trains need no longer run via Wheeling and Newark, but go by way of Pittsburg, thus shortening the route by 30 miles and at the same time embracing more important points. Apart from these lines the B. and O. has its own road to Lexington, Va., which runs parallel with the Shenandoah Valley line of the Norfolk and Western, but has no special Southern connections.

From this summary the reader has no doubt inferred that the B. and O. secures a large proportion of Western traffic. In Chicago, where since the summer of 1891 it has shared the splendid "depot" of the Northern Pacific RR., after having for many years used the terminus of the Illinois Central, (*q. v.*) it meets the Granger lines, and its close connection with the Northern Pacific system promotes an increase of business with the Northwest and the Pacific Slope. In St. Louis it meets various Southwestern and trans-Mississippi roads. It has its own tracks to three Lake ports, and controls a line of steamers to the Northwest, and its connections with the South become more important as time goes on, for the land of the negro is rapidly being "opened up." At the same time the branches in the Alleghany Mountains bring a large amount of profitable mineral traffic.

The physical condition of the road, although superior to that of the majority of American railways, cannot yet be described as perfect, although there exists little doubt that the large annual appropriations for construction and betterments place it within measurable distance of that goal. For the past few years these outlays have been very heavy, so heavy, indeed, that many shareholders, who had not seen a dividend since 1887, complained because betterments were charged to revenue instead of to capital. To enable the reader to judge of the justness of these criticisms I must refer to the income accounts for 1890 and 1889 on p. 280, which show that the year 1890, in spite of lower freight rates, has yielded a profit of $1,380,000, or above $850,000 more than the preceding year. This in itself would have justified a handsome dividend, and if we consider that in addition, according to the report, $1,395,000 have been spent on construction and betterments, there surely has been cause for complaint. It was argued that President Mayer continuously wanted money for capital expenditures, and that he did not abuse the liberal amount of discretion which every president must needs have if he spends large sums in construction and betterments and charges them to revenue instead of to capital. Undoubtedly this method has its advantages; yet the fact was not concealed that the shareholders would like to see him adopt the other course. The prospects of the company are very bright, and excellent earnings likely to continue; and therefore it was said that a dividend might have been paid, and the outlays for improvements which would be required charged to capital, the more because the company is in a sound condition, enjoys good credit, and has a promising future. It was no doubt these representations which induced President Mayer to declare a scrip dividend of 20 p.c. in the autumn of 1891 and to increase the share capital to $25,000,000, an operation which was facilitated by the rise in the price of shares consequent upon the declaration of a stock dividend and a quotation of the shares in New York and London. The complaints, furthermore, seem to have accellerated the declaration of regular cash dividends, which were resumed in May, 1892, when 1¼ p.c. was paid for the quarter ending December, 1891. As an indication of the esteem in which the road is held by the public, it may be mentioned that although no dividend had been paid for three years, in the spring of 1890 its stock, which is mostly held by *bona fide* investors, quoted at 80. The efficiency of the system increases, its connections improve and are gradually expanded, and its business becomes more profitable as time goes on. Within the last few years it has acquired control of important lines, and so far it has not been shown that the management committed any errors in absorbing other roads. Hence, although last year's earnings only amounted to $24,500,000, President Mayer seems to have taken no excessively hopeful view when in his annual report for 1891 he said that the earnings of his system would speedily reach $30,000,000.

Just as Vanderbilt made the New York Central, the late Mr. John W. Garrett, in co-operation with Mr. John Hopkins, made the B. and O., and the Garrett family still hold a vast interest, reaching about $11,000,000 in shares and a formidable amount in bonds. This John W. Garrett was one of the foremost railroad men of the States, and he and John Hopkins were the benefactors of Baltimore. Hopkins founded the famous university, one of the principal seats of learning in the States, connected with her largest and best equipped hospital, and endowed with $ 8,000,000. Garrett did equally much for his city, and his residence on Mount Vernon place is one of the finest in America. After Garretts' death his son, Thomas, assumed the presidency of the road, but was soon afterwards killed when on a drive with his mother. Since then his sister, Miss E. Garrett, has practically managed the vast estate. She is not only the richest, but also has the reputation of being the shrewdest lady in the States. That is saying a good deal, but she proved her right to that title by managing her estate so successfully that within two years its value rose from $15,000,000 to $25,000,000. She spent millions in building and splendidly endowing women's colleges in her native city.

The Baltimore and Ohio RR. has for a number of years distinguished itself by the considerable excess of its earnings over fixed charges, the small amount of its share capital, its moderate capitalization, and the large sums spent on betterments and charged to revenue. The following tables give details of the company's share capital and funded debt, and of its revenue and expenditure during the past three years:—

Capital Stock and Funded Debt.

Share Capital:—	$
First preferred Shares (6 p.c. cumul.)	3,000,000
Second " "	2,000,000
Common Shares (135,250 issued 1892)	25,000,000
Total share capital	30,000,000
Funded Debt outstanding (see next page)	73,481,764
Total capitalisation	103,481,764
Capitalisation per mile of road directly owned	192,531

	1890–91.	1889–90.	1888–89.
Earnings—	$	$	$
Freight	16,813,030	16,991,647	14,669,446
Passengers	5,974,541	5,614,251	4,913,838
Mail	493,542	519,510	406,021
Express	610 064	554,132	523,653
Miscellaneous	639,228	732,556	790,039
Total earnings	24,530,335	24,412,096	21,303,001
Operating Expenses—			
General expenses	1,608,883	1,569,326	1,368,449
Conducting transportation	9,177,001	8,979,089	7,696,336
Maintenance of equipment	3,309,439	3,332,093	2,990,331
Maintenance of way and structures	2,982,910	3,086,362	2,755,726
Total expenses	17,078,233	16,966,870	14,810,844
Net earnings	7,452,102	7,445,226	6,492,158

Funded Debt in 1891.

Bonds.	*Issued.*	*Due.*	*Amount outstanding.*	*Rate per cent.*	*Annual Interest.*	*Coupons due.*
			$		$	
Loan of 1853	1853	at will	579,500	4	23,180	Jan. & Jul.
" "	1853	1935	1,709,500	4	68,380	Apr. & Oct.
*Sterl. Sink. Fund	1870	1895	3,872,000	6	232,320	Mar. & Sep.
To City of Baltimore	1875	1900	390,000	6	23,400	Jan. & Jul.
*Sterl. Sink. Fund	1872	1902	9,680,000	6	580,800	Mar. & Sep.
* " " "	1874	1910	9,680,000	6	580,800	May & Nov.
* " Bonds	1877	1927	7,744,000	5	387,200	June & Dec.
Parkersburg Branch	1879	1919	3,000,000	6	180,000	Apr. & Oct
N. W. Virginia RR.	—	1902	140,000	6	8,400	Jan. & Jul.
*Philadelphia Branch	1883	1933	11,616,000	4½	522,720	Apr. & Oct.
*Currency Gold Bonds	1885	1925	10,000,000	5	500,000	Feb. & Aug.
*Consol 100 Yr. Gold	1888	1988	10,100,000	5	505,000	" "
aCar Trust Bonds	1887	1898	1,500,000	4½	70,312	Jan. & Jul.
1st Mort. Pittsb. & Conn.	—	1898	4,000,000	7	280,000	" "
Cons. " " "	—	1926	6,848,224	6	398,893	" "
			80,629,224			
Consol. Bonds in Sinking Funds, interest payable in Consol. Mortg. Bonds	—	—	3,726,000	5	4,361,405	
Totals			84,355,224	—	—	

Sinking Funds for account of above:

	Cancelled bonds of issue.	*Miscell. bonds.*	*B. & O. Consol'd'ed 5 p.c.*	
	$	$	$	
Loan of 1870	417,208	1,785,204	960,000	
Loan of 1872	378,468	2,429,500	1,242,000	
Loan of 1874	45,406	959,504	1,524,000	
Loan of 1877	665,016	....	....	
Pitts. & Con'ville con. loan of '75	80,344	386,700	....	
Totals	1,586,552	5,560,908	3,726,000	10,873,460

	Amount outstanding	Rate per cent.	Annual Interest
Net Bonded indebtedness, entire system	73,481,764		
Cash received for Main Line Sinking Funds	....	......	312,149
Net cash outlay for interest on Funded Debt for year ended Sept. 30, 1891	....	......	4,049,255

a = Redeemable by annual payments of $250,000.
* = Quoted in London.

The interest on the securities in the Sinking Funds of Loans of 1870, 1872 and 1874, amounting to $312,149.96, is turned into the Company's treasury for general purposes, and is treated as a miscellaneous receipt. The interest on the loans has to be paid in full, and is therefore so charged.

For the increments on securities in Sinking Funds of Loans of 1870, 1872 and 1874 and the annual appropriations, B. & O. Consolidated Mortgage Bonds are issued as provided for in the $29,600,000 Mortgage of 19th December, 1887.

The Company has not up to the present time had its stock registered, as transfer thereof were made only at the office of its Treasurer in Baltimore.

The large increase in the tonnage moved on the entire system in shown by the following statement. The service performed in the past fiscal year has been the largest in the history of the Company.

Tons carried in 1884	8,629,048	Tons carried in 1888	11,195,940
" " 1885	8,422,936	" " 1889	12,161,380
" " 1886	9,807,686	" " 1890	13,968,176
" " 1887	10,572,893	" " 1891	14,858,972

The table on p. 278 shows earnings and expenses for the last three fiscal years.

The income accounts for three years compare as follows:—

INCOME ACCOUNT.

	1890-91. $	1889-90. $	1888-89. $
Revenue—			
Net earnings from operations	7,452,161	7,445,226	6,492,157
Income from other sources	1,259 877	1,509,837	1,265,861
Total	8,712,039	8,955,063	7,758,018
Net earnings Washington branch	190,767	376,172	357,651
Available revenue	8,521,272	8,578,891	7,400,367
Expenditure—			
Interest on bonds, rentals, taxes and other charges for the year	6,429,098	6,417,599	6,208,562
Dividend on 1st and 2nd pref. stock, 6 per cent.	300,000	300,000	300,000
Total	6,729,098	6,717,599	6,508,562
Surplus	1,792.174	1,861,292	891,805
From which payments have been made to retire bonded indebtedness, viz.:			
Principal car trust bonds	350,000	350,000	250,000
Payment to City of Baltimore for the purchase of its interest in the Pittsburg & Connellsville RR	40,000	40,000	40,000
Cash appropriations to sinking funds	58,058	58,058	56,987
Somer. & Cambr. RR. traffic bonds	23,500	33,000	25,500
	471,558	481,058	372,487
Leaving a balance of	1,320,616	1,380,234	519,318

The Assets and Liabilities as at Nov. 30th, 1891, are as follows:—

Assets.		
Cost of construction, including bridges over the Ohio River at Benwood and Parkersburg, W. Va.		$ 39,821,519.85
Cost of other roads owned by the B. & O. RR. Co.		8,677,740.39
Advances for construction and permanent improvements on lines leased and operated.		3,427,551.58
Equipment belonging to B. & O. RR. Co.	$13,416,703.36	
Equipment for which B. & O. RR. Co. issued its bonds	2,500,000.00	
Equipment car trust payments.	402,598.44	
Equipment betterments to trust equipments	44,297.35	
		16,363,599.15
Real estate.		4,710,698.11
Bonds and stocks held by Trustees as security for bonded debt		31,060,186.52
Sinking funds	$10,556,800 00	
Uninvested increment and appropriations	169,245.00	
		10,725,325 00
Bonds and stocks of other corporations		11,160,572 89
Due from other railroads in general account.	$1,691,160.87	
Traffic balances due from connecting lines.	560,715.99	
Bills and accounts receivable	1,276,275 04	
		3,528,151.90
Supplies, fuel, etc.		1,325,782.15
Due from agents, current freight and passenger balances	1,756,979.08	
Cash in hands of officers and agents	41,034.15	
Cash in hands of foreign and domestic agents to pay coupons	175,333.81	
Cash in hands of Treasurer	636,525.16	
		2,609,872 20
Total assets		133,411,999.24
Liabilities.		
Capital stock, 1st preferred	$3,000,000.00	
Capital stock, 2nd preferred.	2,000,000.00	
		5,000,000 00
Capital stock, common.	$14,784,600 00	
Capital stock, scrip	7,966.00	
		14,792,566.00
Ground rent liens.	$689,042.33	
Bonded debt secured by mortgage on main line	25,442,000.00	
Bonded debt secured by mortgage lien and collateral	25,881,000 00	
Bonded debt secured by collateral.	22,244,000 00	
		74,256,042.33
Bonds assumed by B. & O. RR. Co.		680,000.00
Due to sinking fund.		169,245 00
Accrued interest on funded debt and loans to November 30, 1891.	$1,092 214.16	
Accrued rentals to November 30, 1891	186,660 43	
Accrued taxes to November 30, 1891	316,584.35	
		1,595,458.94
Due to the Baltimore & Ohio employes' relief department		267,890.61
Washington Branch Railroad		876,980.43
Due to other railroads on general account	$529,628.83	
Traffic balances due to connecting lines	476,742.28	
		1,006,371.11
Special loans and bills payable		3,472,144.16
Pay-rolls for November, 1891	$949,209 65	
Accounts payable, vouchers.	2,313,680 91	
Individuals and companies	671,454.49	
		3,934,345.05
Dividends and coupon interest uncalled for Unclaimed wages and wages attached		70,527.52
Total liabilities		106,121,571.15
Excess of assets over liabilities		27,290,428.09

Only 791 miles of railroad (out of 3347 now operated) are directly owned by the company, the rest having relations to the B. & O. similar to those existing between the Pennsylvania RR. Company and its auxiliary corporations; the whole is operated as one homogeneous system, although owing to the varied nature of the arrangements with the component parts and of their relations to the Baltimore and Ohio separate accounts are kept in several instances, in addition to the general statistics which pertain to the entire system. Several of the principal corporations now merged into the B. & O. are entirely owned, and some controlled through ownership of stock; others again are managed under a guarantee of funded debt or interest thereon (or both), and a few have considerable debts to the company, either for advances made for betterments or because the guarantee of bonds or interest was to be carried out by the B. & O. The greatest number of lines, however, are leased against certain terms, in some instances coupled with a guarantee of interest. In a measure the annual report affords a clue to the relations with subsidiary roads. For example, the balance sheet shows advances for construction and improvements amounting to $3,427,551, the cost of other roads owned by the company being computed at $8,677,740, and $11,160,572 being owned in shares and bonds of other corporations, etc. The company has guaranteed principal and interest of a little over $28,500,000, specified below, and interest alone on $7,400,000. The "Income account" in the annual report gives no details with regard to the exact amount, but I am informed that the rentals paid directly remain a little below $1,000,000.

The following shows length, terminals, and relation to the Baltimore and Ohio of all subsidiary railways forming part of the system.

Name of Road.	*Length Miles.*	*Runs from*	*To*	*Controlled through*
d. B. & O. and Chicago	271	Chicago Junct.	Chicago.	Ownership.
d. B. & O. Southwestern	281	Belpre.	Cincinnati.	Ownership of stock.
b. Balt. and Philad...	54	Md. State Line.	Chester Branch. Phila & Read.	Agreement.
a. Berkeley Springs and Potomac.....	6	Hancock.	Berkeley Springs	Ownership of stock
c. Berlin...............	8	Berlin, Pa.	Garrettie, Pa.	" "
d. Central Ohio.......	137	Belaire.	Columbus, O.	Lease.
d. Columb. & Cinc. Midl.	70	Columbus.	Midland Cy.	"
c. Confluence & Oakland	20	Confluence, Pa.	Young Manor, Md.	"
a. Fairmount, Morgantown & Pittsb...	25	Fairmount.	Morgantown.	Ownership of stock.
d. Newark, Somerset & Straits...........	47	Newark, O.	Shawnee, O.	Lease to Sandusky, Mansfield & Newark R.R.
c. O. & B. Short Line	8	O. & B. S. L. Junc.	Trotters.	Ownership.
Ohio and Mississippi	635	Cincinnati.	East St. Louis, etc.	Controlled; see under O. & M.
a. Parkersburg Branch	137	Grafton.	Parkersburg	Leased.
c Pittsb. & Connll.vl..	152	Pittsburg.	Cumberland, Md. etc.	"
d. Pittsb. & Western.	398	"	Akron and Fairport.	Ownership of stock.
c. Salisbury Railroad.	3	Main Line.	Mines.	" "
d. Sandusky, Mansfield & Newark.......	116	Newark, O.	Sandusky, O.	Leased.
c. Somerset & Cambria	45	Rockwood.	Johnstown, Pa.	Controlled.
a. South Branch.......	16	Green Spring	Romney, W. Va.	Owned.
a. Strassb. & Harrisonb.	49	Strassburg.	Harrisonburg.	Leased.
a. Washington Branch.	31	B. & O. Line.	Washingt. D. C.	Ownership of stock
a. " City...	13	Alexandria Jc.	"	Leased.
a. " County	24	Weverton.	Hagerstown.	"
d. West Virginia & Pittsburg........	41	Clarksburg.	Weston, W. Va.	"
c. Wheeling, Pittsb. & Baltimore........	68	Glenwood, Pa.	Wheeling, W. Va.	Ownership.
a. Winchester & Ptmc.	32	Winchester.	Harper's Ferry.	Leased.
a. Winchester & Strasb-	21	"	Strassburg.	"

a. = Part of main stem and branches. *b.* = Part of Philadelphia division. *c.* = Part of Pittsburg division. *d.* = Part of trans-Ohio system.

The following statements show the guarantees assumed by the company, and give some details pertaining to the roads controlled.

The Bonds for which this Company is guarantor are as follow:—

	$
First Mortgage 4½ per cent. bonds of the Baltimore and Ohio Southwestern Railroad company	10,667,000
First Mortgage 5 per cent. bonds of the Schuylkill River East Side Railroad Company.	4,500,000
Second Mortgage 5 per cent. bonds of the Staten Island Rapid Transit Railroad Company	2,500,000
First Mortgage 6 per cent. bonds of the Valley Railroad Company of Virginia (held in sinking funds).	326,000
First Mortgage 6 per cent. bonds of the Winchester and Potomac Railroad Company	147,250
The annual interest on these bonds is $8.835, and is paid out of the rental.	
Consolidated Mortgage 6 per cent. sterling bonds of Pittsburg and Connellville Railroad Company (£1,373,600).	6,648,224
First Mortgage 5 per cent. bonds of the Baltimore and New York Railway Company	350,000
First Mortgage 5 per cent. bonds of the Monongahela River Railroad Company	700,000

Columbus and Cincinnati Midland.—

First Mortgage 4½ per per cent. bonds of the Columbus and Cincinnati Midland Railroad Company, amounting to	2,000,000
have been guaranteed by the Central Ohio Railroad Company as reorganised, and the Baltimore and Ohio Railroad Company has covenanted that the C. O. RR. Co. will comply with its guarantee.	
4½ per cent. debenture bonds of the Columbus and Cincinnati Midland Railroad Company, amounting to	240,000
These debentures are payable January 1, 1895, and are guaranteed in the same manner as the above bonds of the Columbus and Cincinnati Midland Railroad Company.	

Interest for which the Company is guarantor

Semi-annual dividends of 1½ per cent., from and after January 1, 1895, upon the 3 per cent. preferred stock of the Columbus and Cincinnati Midland Railroad Company, amounting to.	1,000,000
On July 9, 1884, the Pittsburg and Western Railway Company became the lessee of Pittsburg, Cleveland and Toledo Railroad, and bound itself to pay from the earnings of the P. & W. and P. C. & T. Companies the annual sum of $144,000, in equal monthly instalments, being the interest at 6 per cent. upon.	2,400,000
of the first mortgage bonds of the P. C. & T. RR. Co. The Baltimore and Ohio RR. Co., by a contract of the same date with the P. & W. RR. Co., agreed to see that the amount aforesaid was paid by the P. & W. RR. Co., and, in case of its failure to pay the same, the B. & O. Company becomes entitled to the lease of the P. C. & T. RR.	
Interest upon the First Mortgage 5 per cent. bonds of the West Virginia and Pittsburg Railroad Company, amounting to	4,000,009

Concerning proprietary companies the following is of interest:—

The *Baltimore and Ohio and Chicago Railroad* consists of the line from Chicago Junction, O., to Chicago, was built for account of and is owned by the B. & O. The road is 271 miles long, and the company's funded debt amounts to $7,744,000 secured by mortgage upon the property; all shares are in possession of the B. & O. to which the company owes (!) some $5,500,000.

BALTIMORE & OHIO SOUTHWESTERN RR.

This company is a reorganization of the Cincinnati, Washington & Baltimore RR. which was sold in foreclosure in September 1889. The main line runs from Cincinnati to Belpre, O., situated opposite Parkersburg on the Ohio, where it meets the B. and O.; is 193 miles long, and in fair condition; branches 88 miles, total 281 miles. The B. and O. guarantees the first mortgage bonds, amounting to $10,667,000; in addition to this there are first, second and third cumulative income bonds to the amounts of $5,500,000, $6.400,000 and $7,700,000 respectively, and a share capital of $2,500,000 preferred and $2,500,000 common, the latter held by the Baltimore & Ohio.

The earnings for the last two years have been as follows:—

	1890. $	1889. $
Gross earnings	2,329,445	2,177,957
Operating expenses	1,517,793	1,499,648
Net earnings	811,652	678,309
Taxes and assessments	54,000	53,788
Balance	757,652	624,521

On March 25, 1891, a 4 per cent. dividend on the first incomes was paid.

PITTSBURG & WESTERN RR.

This company, owning 212 and operating 398 miles, connects Pittsburg with Mt. Jewett (narrow gauge line), Fairport and Akron, and on the completion of the Akron & Chicago Junction RR., now being constructed by the B. & O., will serve as part of that company's route between New York and Chicago, via Pittsburg. The property was sold in foreclosure in 1887, when the present company was reorganised. On February 2nd, 1891, the B. & O. obtained control by buying $6,500,000 common stock, being six-sevenths, of the whole issued, for which it paid in its own shares, at the rate of, it is generally believed, less than forty per cent., and arrived at an agreement involving the guarantee of certain bonds. The P. & W. has issued $12,000,000 bonds, $7,000,000 common and $5,000,000 5 per cent. non-cumulative preferred stock. In 1890/91 gross earnings were $2,092,302, net $379,372; surplus over charges $30,744.

WASHINGTON BRANCH RR.

This road, 31 miles long, is part of the main line from Baltimore to Washington, and its accounts are kept separate by the B. & O., which owns nearly two-thirds of the capital. The company owes $895,356 to the B. & O. Gross earnings 1891: $726,418; expenses $535,652, net $190,766.

WHEELING, PITTSBURG AND BALTIMORE RR.

The line is 66 miles long, and is owned by the B. & O. Concerning the *leased* roads the following is of interest:—

The *Baltimore and Philadelphia Railroad* and the *South Branch Railroad* are operated by the Baltimore and Ohio Company, but without leases.

CENTRAL OHIO RR.

This lease was amended and was duly extended for two terms ending December 1, 1926, and is subject to perpetual renewal thereafter, in terms of 20 years, at the B. & O. Company's option. The annual rental is 35 per cent. of the gross earnings, and for the present fiscal year, amounts to $477,947.39.

COLUMBUS AND CINCINNATI MIDLAND RR.

This lease is for 999 years from January 1, 1890. The rental is 4½ per cent. per annum, payable semi-annually, upon $2,000,000 of first mortgage bonds; 4½ per cent. per annum, payable semi-annually, upon $240,000 debenture bonds maturing January 1, 1895; and 3 per cent. per annum, payable semi-annually, commencing with January 1, 1895, upon $1,000,000 of preferred non-voting stock. Bonds guaranteed by B. & O.; see foregoing statement.

CONFLUENCE AND OAKLAND RR.

This lease is for 999 years from the first day of November, 1890. The rental is a sum equal to the interest on the outstanding first mortgage 5 per cent. bonds. The outstanding bonds amount to $200,000. In payment of freight accruing to it on the interchanged traffic, the Baltimore & Ohio Company will receive at par $20,000 of these bonds per annum, which when so received are to be cancelled.

NEWARK, SOMERSET AND STRAITSVILLE RR.

This lease has been amended and extended for 40 years from November 1, 1889 and is subject to perpetual renewal thereafter at the B. & O. Company's option. The annual rental is 30 per cent. of the gross earnings, and, for the present fiscal year, amounts to $43,507.92, but the minimum rental is not to be less than $40,000, which is the interest at 5 per cent. on $800,000 of the bonds of the Newark, Somerset and Straitsville RR. Co. For any advances to pay this minimum, the Baltimore and Ohio Company is entitled to reimbursement from the receipts of any subsequent year.

OHIO AND MISSISSIPPI RR.

For particulars see separate chapter.

PARKERSBURG BRANCH RR.

There is no formal lease of the Parkersburg Branch RR. Co., but the B. & O operates and maintains it, under an arrangement to take its revenues and apply the same, first to the payment of operating expenses, and the remainder thereof to the annual interest upon its bonds, which interest amounts to $180,000. When the net earnings are not equal to this amount, the deficiency is advanced by the B. & O. Company, and constitutes a debt against the Parkersburg Branch RR. Co.

PITTSBURG AND CONNELLSVILLE RR.

This lease is for 50 years from January 1, 1876, and perpetual thereafter, at option of the Baltimore and Ohio Company, which receives the gross revenues of the P. & C. RR. Co., and applies the same, firstly to the payment of operating expenses, and secondly to the payment of the interest on the bonded debt, including the annual appropriation to the sinking fund of the first consolidated mortgage. Any advances made by the Baltimore and Ohio Company to pay the interest or appropriations to the sinking funds may be made up from the earnings of any subsequent year or years. The aggregate interest on the bonded debt of the P. & C. Company, including the $10,000,000 of bonds of the issue of 1885. the appropriation to the sinking fund, and taxes, amounts to $1,234,918.82. B. & O. guarantees bonds; see foregoing statement.

SANDUSKY, MANSFIELD AND NEWARK RR.

This lease has been amended and extended for two additional terms ending December 1, 1926, and is subject to perpetual renewal thereafter, in terms 20 years, at the B. & O. Company's option. The annual rental is $201,850.

STRASBURG AND HARRISONBURG RR.

(A part of the Virginia Midland RR. extending from Strasburg to Harrisonburg. Virginia.) This lease is for the period of 99 years from September 1, 1873, and renewable for ever thereafter at the B. & O. Company's option. The annual rental is $89,250.

WASHINGTON CITY AND POINT LOOKOUT RR.

This lease is perpetual. The annual rental is $36,000, of which $32,400 is to be applied to the payment of the interest on $540,000 six per cent. bonds of the Washington City and Point Lookout RR. Co., and the remainder, $3,600, is annually appropriated to extinguish the issue of these bonds at their maturity on June 1, 1913.

On November 18, 1874, the Washington City and Point Lookout Railroad Company by deed, conveyed to the Baltimore and Ohio Railroad Company its entire right and title of the Alexandria Branch, extending from Hyattsville, on the Washington branch of the Baltimore and Ohio road, to Marbury Point, opposite Alexandria, and the Baltimore and Ohio Company is now absolute owner of that line.

WASHINGTON COUNTY RR.

This road is not leased by the Baltimore and Ohio Company, but is operated by that corporation for account of the stockholders of the Washington County RR. Co.

WEST VIRGINIA AND PITTSBURGH RR.

This lease is for 999 years from the first day of January, 1890. The rental is 62½ per cent. of the revenue, payable semi-annually. The remaining 37½ per cent. is to be applied by the Baltimore & Ohio Company to the payment of the interest upon the outstanding first mortgage 5 per cent. bonds, amounting to $4,000,000. If 37½ per cent. is not sufficient to pay the interest semi-annually on these bonds, the Baltimore & Ohio Company has to make up the difference, and is entitled to repayment from future net earnings.

For the first two years after commencing the operation of the road, if the 62½ per cent. of the revenue is not equivalent to the operating expenses, the West Virginia and Pittsburg Railroad Company is to make up the deficiency, and for the next three years up to 67½ per cent. of the gross revenue. The rental of 62½ per cent. is subject to revision at the end of every 15 years during the continuance of the lease. The B. & O. guarantees bonds; see foregoing statement.

WINCHESTER AND POTOMAC RR.

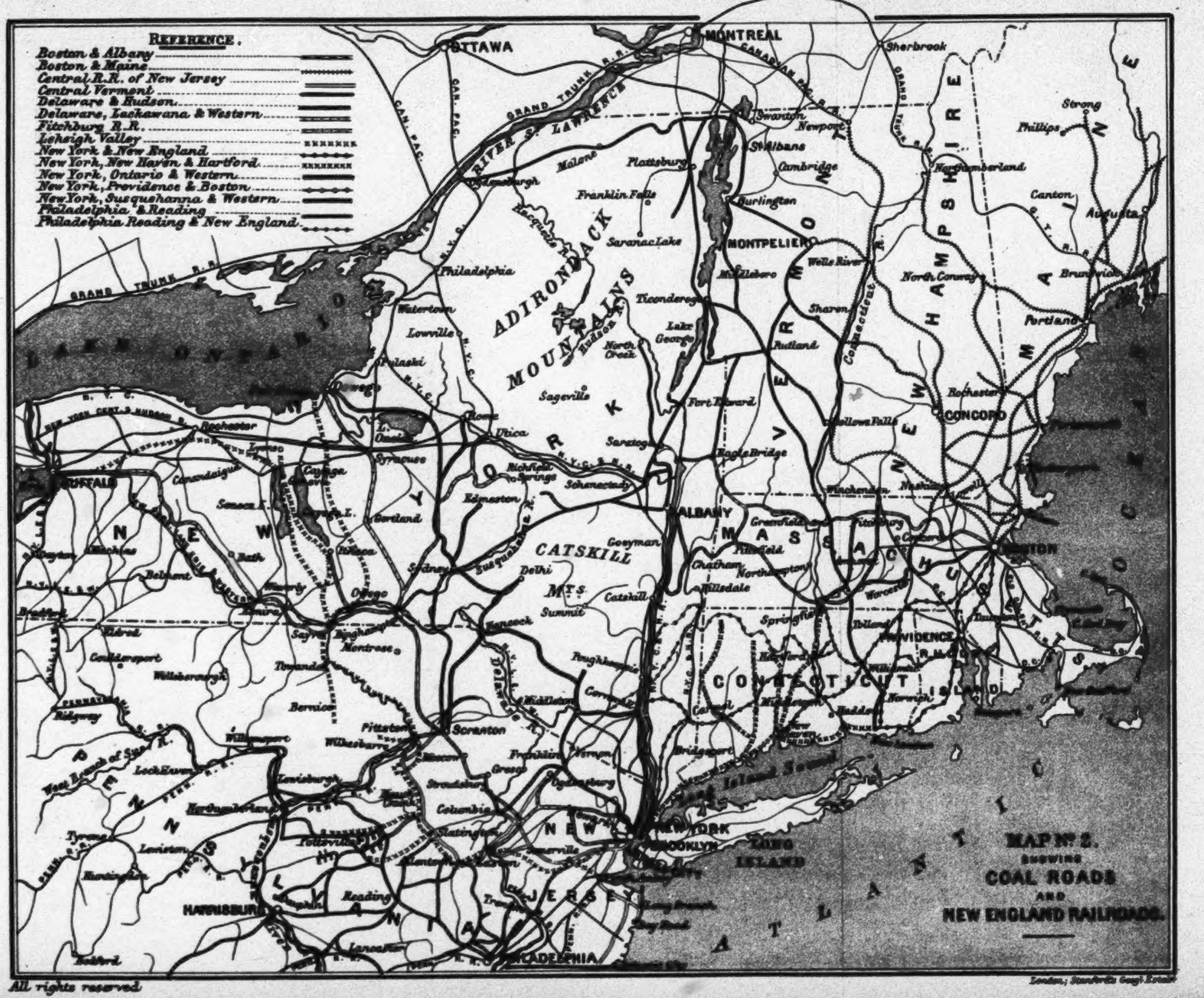
This lease was for 20 years from July 1, 1867, and is subject to perpetual renewal at the B. & O. Company's option at the expiration of each term of 20 years, and has been renewed for the term ending July 1, 1907. The annual rental is $27,000. The B. & O. guarantees bonds; see foregoing statement.

WINCHESTER AND STRASBURG RR.

This lease has been amended and extended for a period of 20 years from July 1, 1887, and is subject to perpetual renewal thereafter at the B. & O. Company's option. The cost of this road was over $6,000,000. The Legislature of Virginia authorised the issue of capital stock to the amount of $60,000. Under the lease as amended. the Baltimore and Ohio RR. Co. guarantees a dividend of 4 per cent. per annum upon the stock of the W. & S. RR. 746 shares are held by individuals, the annual dividend on which is $2,984. The remainder, 5,254, belong to the B. & O. RR. Co.

AKRON AND CHICAGO JUNCTION RR.

This lease is for 999 years from July 1, 1890, and is to the Baltimore & Ohio Railroad Company, which agrees to secure the payment of the rental. The rental, payable semi-annually, is $2 for every loaded freight car transported over the road, or any part thereof, in either direction, up to the number of 50,000 in each year, and the sum of $1 per loaded freight car for each car in excess of 50,000 in each year.


REFERENCE.
Boston & Albany
Boston & Maine
Central R.R. of New Jersey
Central Vermont
Delaware & Hudson
Delaware, Lackawana & Western
Fitchburg R.R.
Lehigh Valley
New York & New England
New York, New Haven & Hartford
New York, Ontario & Western
New York, Providence & Boston
New York, Susquehanna & Western
Philadelphia & Reading
Philadelphia Reading & New England
OTTAWA
MONTREAL
Sherbrook
GRAND TRUNK R.R.
CANADIAN PAC. R.
CAN. PAC.
RIVER ST. LAWRENCE
LAKE ONTARIO
ADIRONDACK MOUNTAINS
CATSKILL MTS
NEW YORK
VERMONT
NEW HAMPSHIRE
MAINE
MASSACHUSETTS
CONNECTICUT
RHODE ISLAND
PENNSYLVANIA
NEW JERSEY
LONG ISLAND
Long Island Sound
ATLANTIC OCEAN
Swanton
St. Albans
Newport
Plattsburg
Cambridge
Burlington
MONTPELIER
Franklin Falls
Saranac Lake
Malone
Ogdensburgh
Philadelphia
Watertown
Lowville
Pulaski
Oswego
Rochester
BUFFALO
Canandaigua
Lyons
Syracuse
Rome
Utica
Sageville
Saratoga
Schenectady
ALBANY
Richfield Springs
Edmeston
Cortland
Ithaca
Sidney
Delhi
Oswego
Summit
Catskill
Hancock
Poughkeepsie
Middletown
Fort Edward
Ticonderoga
Lake George
North Creek
Rutland
Middlebury
Wells River
Sharen
North Conway
Portland
Brunswick
Augusta
Canton
Phillips
Strong
Northumberland
Rochester
CONCORD
Bellows Falls
Eagle Bridge
Winchendon
Nashua
Greenfield
Fitchburg
Pittsfield
Chatham
Northampton
Hillsdale
Springfield
Worcester
BOSTON
PROVIDENCE
Hartford
Willimantic
Norwich
New London
New Haven
Middletown
Bridgeport
Danbury
Goshen
Vernon
Franklin
Ogdensburg
NEW YORK
BROOKLYN
JERSEY CITY
Long Branch
Toms River
Somerville
Trenton
PHILADELPHIA
Scranton
Pittston
Wilkesbarre
Stroudsburg
Columbia
Slatington
Allentown
Pottsville
Reading
Lancaster
HARRISBURG
Bedford
Huntingdon
Tyrone
Lewiston
Northumberland
Lewisburg
Williamsport
Lock Haven
West Branch of Susq. R.
Ridgway
Wellsborough
Coudersport
Towanda
Montrose
Sayre
Binghamton
Elmira
Waverly
Bath
Belmont
Bradford
Olean
Salamanca
Seneca L.
Cayuga L.
Hornellsville
Goryman
Bernice

MAP Nº 2.
SHOWING
COAL ROADS
AND
NEW ENGLAND RAILROADS.

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London; Stanford's Geog¹ Estab¹

CHAPTER XVIII.

THE "COAL ROADS."

Separated from the Atlantic Coast by a strip of land barely a hundred miles in width, and almost equidistant from New York and Philadelphia, lies the great anthracite coal district of Pennsylvania, a region only a few hundred miles in extent, but on account of its boundless mineral wealth one of the most important of the entire North American Continent. It is an exceedingly hilly country, abounding with the steep ridges and deep ravines characteristic of the Alleghany Mountains, of which these hills are the outposts, and studded with thousands of towns and villages, in some of which industries preponderate while in others mining or farming flourish. Swift streams run through the winding valleys, their banks usually lined with canals and railways, both of which chiefly carry coals; the noise of the coal "breakers" and of the bells and whistles of locomotive engines fill the air, and at intervals we perceive the blast of ovens and furnaces. Here the hills are covered with woods and the valleys with crops; yonder the entire country looks dismal and desolate, the hills black with burned forests, the valleys black with coal, soot and smoke, and the rivers black with the refuse from the "breakers": it is the black country of the East, which annually produces 55,000,000 tons of coal, more than two-thirds of which consist of anthracite.

These coalfields, divided into the North, Middle and South Basins, have the towns of Reading, Pottsville, Maunch Chunk, Williamsport, Wilkes-Barré and Scranton for their traffic centres, and from these a number of railways which are instrumental in carrying the coals to market radiate. The great cities on tidewater of course receive the greater part of the hard and smokeless coal, but formidable quantities are also carried to other regions, notably to New England, the industrial cities of Northern New York, Canada, Buffalo, the West, and Lakes Erie and Ontario. Two-thirds of the coals mined remain in Pennsylvania, New Jersey and New York, and one-sixth goes to New England, either by the all-rail route via Poughkeepsie Bridge or by vessel from tidewater, according to destination; the rest is carried directly to the South and the West, the latter, and also Canada, receiving most of the coal carried to the Lake ports — Buffalo, Oswego, Erie, etc.—and hence figuring among the quantity remaining in New York and Pennsylvania.

Of course all lines tapping this district carry considerable quantities of coal. The Pennsylvania and Erie railroads, as we have seen, transport vast volumes. The Reading system, however, especially now that it has gained control of three other most important lines, is no doubt the leading "coaler," since it transports more anthracite and devotes itself more exclusively to coal business than any other road. In addition there are the Delaware & Hudson, the Ontario & Western, the Susquehanna & Western and the Philadelphia, Reading & Western, recently identified with the Reading interest, all of which are instrumental in distributing the products of the mines, not to speak of the indirect connections, such as the Vanderbilt lines or the Baltimore & Ohio.

It is a peculiarity of this region that the greater part of the anthracite coal mined is produced by corporations controlled by the railway and canal companies, or by individuals from land owned by the corporations who direct the shipment of it. The following is a statement of the production for 1886:—

	Tons produced by Corporations.	*Tons produced by Individuals.*
Northern coal field	12,322,528	5,925,347
Eastern Middle coal field	356,833	4,636,528
Western Middle coal field	5,448,857	2,673,782
Southern coal field	2,975,580	451,855
	21,103,798	13,687,512

This table shows that corporations directly control at least three-fifths of the total output, but practically 80 per cent. is controlled by railways in some way or another. The public has viewed this control with much apprehension, especially in connection with the Reading combination; but spokesmen of the corporations assert that the operation of mines by corporations with vast resources benefits the public and the mines alike, in support whereof they point to the fact that the output of the Schuylkill district, chiefly controlled by individuals and mining companies, rose from 1,840,260 tons in 1850 to 9,381,407 tons in 1886, while the Wyoming region, mainly operated by railroads, produced 827,823 tons in 1850 and 17,031,826 tons in 1886.

The following table gives the approximate amount of hard coal carried by the principal railways directly tapping the anthracite district:—

	Tons carried	*Percentage of total other freight revenue.*
Erie	10,700,000	27
Lehigh Valley	10,300,000	46
Jersey Central	9,500.000	53
Reading	9,000,000	45 (?)
Lackawanna	7,500,000	62
Delaware & Hudson Canal	7,000,000	41
Pennsylvania	3,000,000	?
Ontario & Western	500,000	30
Susquehanna & Western	300,000	55

This statement is based partly upon estimates, and no absolute accuracy is claimed for it; nevertheless it fairly indicates the distribution of coal traffic among the principal lines, and the relative importance of this traffic to each.

Of these roads the Pennsylvania and Erie have been dealt with, and the Reading and Ontario & Western call for separate chapters. The other five companies require no very detailed statement, and for this reason their affairs can be discussed here.

THE DELAWARE, LACKAWANNA & WESTERN RR.

Next to the Reading, by which it is indirectly controlled, the Delaware & Lackawanna undoubtedly occupies the leading place among the coal roads, for, as the earnings of this prosperous company show, it has the largest revenue of all "coalers" except the Reading, if we include the earnings of the Coal & Iron Company in the revenue of that corporation. These earnings, however, are misleading, inasmuch as they do not merely represent the revenue from freight or passenger business, but also that from mines and leased roads, while the expenses of these concerns are included in general operating expenditure. Nevertheless, the Delaware & Lackawanna is one of the most important carriers of coals. It has excellent properties north of the Lehigh River, and superior terminals on New York Harbour, in Buffalo, and in Oswego, a coal port on Lake Ontario, where it owns immense wharves. It connects with the Grand Trunk, with the Vanderbilt lines West of Buffalo, and with the roads leading to New England, notably the Delaware & Hudson. Out of a total revenue exceeding $40,000,000 presumably more than $9,000,000 are derived from coal traffic, but it is impossible to give exact figures, the "annual report" issued by this company consisting of a laconic statement filling one side of a small sheet of paper, a fact no doubt connected with the highly speculative nature of the stock, which is always largely dealt in in Wall Street.

The following details relating to this company have been copied from the New York *Chronicle*, by kind permission of the proprietors of that journal:—

The company operates under lease an extensive system of roads in New York, Pennsylvania and New Jersey. Owns from Delaware River (N. J. line) to New York State line, 115 miles; branches—Scranton to Northumberland, 80 miles; branches to Winton, Storrs, Keyser Valley, etc., Pa., 17 miles; leased lines in New York—New York, Lackawanna & Western Railroad, 214 miles; Cayuga & Susquehanna Railroad, 34 miles; Jreene Railroad, 8 miles; Oswego & Syracuse Railroad, 35 miles; Utica, Chenango & Susquehanna Valley Railroad, 97 miles; Valley Railroad, 12 miles; controls and operates—Syracuse, Binghamton & New York, 81 miles; leased lines in New Jersey—Chester Railroad, 10 miles; Morris & Essex, 120 miles; Newark & Bloomfield, 4 miles; Warren Railroad, 18 miles; Sussex 30 miles; Passaic & Delaware and extension, 22 miles: total operated, 900 miles.

In February, 1892, a considerable interest in this company having been acquired by parties connected with the Philadelphia & Reading, Mr. Maxwell, Vice-President of the Reading and President of the Central RR. of New Jersey, was elected to the Vice-Presidency. The alliance so effected will, it is hoped, result in the maintenance of rates in the coal trade, and consequently increased profits to the companies.

Formerly 10 per cent. dividends were paid, but in the dull times 1876 to 1880 there were no distributions; in 1880, 3 per cent. [was paid; in 1881, 6¾; in 1882, 1883 and 1884, 8; in 1885, 7¾; from 1886 to Jan., 1892, both inclusive, at rate of 7 per cent. per annum.

	1891.	1890.	1889.	1888.
	$	$	$	$
Gross receipts, all sources.	41,849,754	40,688,645	38,247,622	43,232,422
Operating expenses	33,894,591	32,499,850	30,653,586	33,546,135
Betterments, equip., etc.	121,474	240.019	223,577	967,605
Total expenses	34,016,065	32,739,878	30,877,163	34,513,740
Net receipts	7,833,689	7,948,767	7,370,459	8,718,682

INCOME ACCOUNT.

	1891.	1890	1889.	1888.
	$	$	$	$
Net receipts	7,833,689	7,948,767	7,370,459	8,718,682
Interest and rentals	5,418,226	5,328,494	5,222,375	5,218,419
Balance, surplus	2,415,463	2,620,273	2,148,084	3,500,263
Dividends (7 per cent.)	1,834,000	1,834,000	1,834,000	1,834,000
Balance after dividends	581,463	786,273	314,084	1,666,263

The reports show that 9·21 per cent. was earned on the stock in 1891, against 10 per cent. in 1890, 8·20 in 1889, 13·35 in 1888, and 11·97 in 1887.

GENERAL BALANCE AT CLOSE OF EACH FISCAL YEAR.

	1891.	1890.	1889.	1888.
Assets—	$	$	$	$
RR., build'gs, equipment, coal lands, etc.	34,804,646	34,804,646	34,804,646	34,538,226
Stocks and bonds owned, cost	8,829,966	8,789,440	5,687,000	5,873,340
Net cash & current accts.	*654,209	*117,203	*2,672,237	*2,582,749
Materials, fuel, etc.	1,742,228	1,738,297	1,506,339	1,361,914
Total	46,031,049	45,449,586	44,670,312	44,356,229
Liabilities—				
Stock	26,200,000	26,200,000	26,200,000	26,200,000
Funded debt	3,667,000	3,667,000	3,674,000	3,674,000
Surplus account.	16,164,049	15,582,586	14,796,312	14,482,229
Total liabilities	46,031,049	45,449,586	44,670,312	44,356,229

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*Net balance between liabilities and assets.

The items on both sides of the account which go to make up the above net balances of $117,203 in 1890 and $654,209 in 1891 are as follows:—

	1891.	1890.
Accounts receivable—	$	$
Cash on hand	1,010,903	979,552
Coal on hand (less than market value)	1,451,070	1,268,527
Advances to leased roads	1,985.113	1,158,898
Advances on coal to be delivered, etc.	1,766,255	1,741,136
Coal bills and sundry accounts due	1,474.472	1,714,939
Loans and sundry accounts receivable	938,109	688,807
Total	8,625,922	7,551,860
Less accounts payable, viz.—		
Past due dividends, interest and rentals	112,906	152,904
Del. L. & W. div., payable Jan. '91 and '92	458,500	458,500
Rentals payable after January 1	1,695,455	1,749,982
State taxes payable after January 1.	328,154	446,706
December pay-rolls, payable in January	797,612	769,531
Bonds and mortgages	496,851	496,851
Vouchers due and payable after Jan. 1.	1,498,191	1,951,599
Sundry obligations, account of transportation. . .	2,586,042	1,408,583
Total	7,971,713	7,434,657
Balance of accounts receivable	654,209	117,203

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*Of which $4,443,559 has been paid since close of year.

THE CENTRAL RR. OF NEW JERSEY.

Somewhat unique in the diversity of its traffic and its interests is the road familiarly known as the "Jersey Central." It holds high rank among the great coal-carrying lines which transport the fuel of New York City and its vicinity from the anthracite fields of Pennsylvania to tidewater, and at the same time it forms the most travelled line of communication between the metropolis and the long chain of summer resorts stretching down the New Jersey coast. It is among the principal lines of connection between New York City and that greater New York, its vast suburban territory; and it also constitutes an important link in the great through route between the east and the south, known as the "Royal Blue Line," a combination of the J. C., Reading, and Baltimore & Ohio.

The history of the Central Railroad Company of New Jersey dates from 22nd February, 1849, when it was formed by the consolidation of the Elizabeth and Somerville Railroad and Somerville and Easton Railroad. These two connected made a continuous line between Elizabethport, N. J., and Easton, Pa., which was completed and opened in 1852. In 1864 the road was extended to Jersey City. By the lease in 1871 of the Lehigh and Susquehanna Railroad, a through line was secured between New York and Scranton, Pa., with branches extending in various directions through the Lehigh, Lackawanna, and Wyoming coal regions. The notable acquisitions in other directions were those of the New Jersey Southern Railroad and New York and Long Branch Railroad in 1881, and numerous branch and auxiliary lines were added from time to time.

The length of its various lines now aggregates 667 miles, and the company owns and operates altogether 1,353 miles of track. Its rolling equipment comprises about 450 locomotives, 450 passenger coaches, 12,000 freight cars of different kinds, 25,000 coal cars, and several hundred service cars. In addition to its property on wheels it owns four steamboats plying between New York and Sandy Hook, five ferryboats and five tugboats on the North River, and other floating transport facilities. The road-bed, superstructures, bridges, and buildings are in first-class condition, and the equipment is modern and equal to the largest possible demand upon it.

The New York City terminals of the Central Railroad of New Jersey are most advantageously situated, occupying an extensive site upon the North River front, contiguous to the city's important business centres and conveniently accessible to all sections of the metropolis and its environs. The new and magnificent passenger station at Jersey City is one of the most complete in the country.

The train-shed is noted for its great size and judicious arrangement. It has 12 tracks holding 15 cars each, so that 180 cars can load, unload, leave, or arrive at the same time. About 200 regular passenger trains enter and leave this structure every 24 hours. These terminal accommodations are used by the Reading trains, under the old agreement with that company.

The main line of the Jersey Central crosses the central part of the State, taking in Newark, Elizabeth, Plainfield, and Somerville, crossing the Delaware River at Phillipsburg to Easton, Pa., where it joins the Lehigh and Susquehanna Division. This latter passes through Bethlehem, Allentown, Mauch Chunk, with its famous "Switchback" and magnificent mountain scenery, and on to the important inland cities of Wilkes-Barre, Pittstown, and Scranton.

The summer resorts at Schooley's Mountain, Budd's Lake, and Lake Hopatcong are reached by a branch diverging from the main line at High Bridge, and another extension is the Lehigh and Hudson road, running from Phillipsburg to a connection with the Poughkeepsie Bridge system. The Lehigh and Lackawanna Railroad is also an important branch of the New Jersey Central, extending from Bethlehem to Wind Gap and Bangor, tapping the great slate quarries for which that region is noted.

Along the line of the Lehigh and Susquehanna Division feeders and branches strike out in all directions to reach the rich coal deposits. A branch running in from Mauch Chunk and Tamaqua connects the Central with the Williamsport division of the Reading road, forming a short line from New York to Harrisburg and to the Beech Creek bituminous coalfields.

The New Jersey Central carries annually over 15,000,000 passengers, 8,000,000 tons of freight, and nearly 10,000,000 tons of coal, and the total value of its properties is upwards of $75,000,000.

In the spring of 1892 this road was leased for 999 years from January 1st, 1892, to the Port Reading RR., a company controlled by the Reading, which guarantees 7 per cent. on the stock, and will give the Central of New Jersey one-half its surplus earnings above the guaranteed dividends up to 10 per cent., after which all remaining profits belong to the lessee. The Reading has deposited with Messrs. Drexel, Morgan & Co., of New York, $2,000,000 in securities to secure the lease. The latter does not cover certain property which will yield a considerable revenue beyond the rental from the Reading, and which consists of valuable real estate in New York and other possessions yielding a quarter of a million dollars annually.

Although the company in former years was repeatedly in financial difficulties, good management has brought it into an excellent condition; and its lease to the Philadelphia and Reading has added additional importance to its finances. I append the following comparative statistics, copied (by permission) from the *Chronicle*.

OPERATIONS AND FISCAL RESULTS.

	1891.	1890.	1889
Passengers carried	14,827,506	13,716,832	12,[illegible]5,149
Passengers carried one mile	182,033,969	180,288,585	150,542,438
Freight and bitumin coal (tons) moved	6,627,358	6,401,801	5,004,727
Freight and bitumin coal (tons) one mile	361,247,639	342,040,924	277,294,601
Anthracite coal (tons) moved	7,512,544	7,463,529	6,020,365
Anthracite coal (tons) one mile	688,193,670	654,865,379	698,434,528
Earnings—	$	$	$
Passenger	3,145,642	3,095,814	2,533,173
Merchandise freight	4,111,890	3,955,710	3,365,946
Anthracite coal	7,026,290	6,725,606	7,344,539
Express	202,509	192,324	187,641
United States mail	29,173	27,846	25,270
Miscellaneous	50,638	48,175	40,825
Prop. of local earns. N. Y. & L. B. RR.	78,454	80,998	—
Total gross earnings	14,653,687	14,126,563	13,497,394
Operating Expenses—			
Conducting transportation	2,745,368	2,656,208	2,483,022
Motive power	2,410,396	2,253,247	2,114,183
Maintenance of cars	978,238	967,679	878,845
Maintenance of way	1,206,114	1,155,948	1,387,212
Taxes	309,772	303,390	294,403
General expenses	460,082	420,224	374,072
N. Y. & Long Branch Division	416,219	404,576	—
Total	8,526,168	8,161,276	7,531,737
Net earnings	6,127,518	5,965,287	5,965,657
Percentage of op. exp. to earnings	58·18	57·77	55·80

INCOME ACCOUNT.

	1891.	1890.	1889.
Revenue—	$	$	£
Net earnings	6,127,518	5,965,288	5,965,658
Income from investments	844,628	837,293	799,238
Premium on bonds sold, etc.	52,648	322,753	—
Total income	7,024,794	7,125,334	6,764,896
Expenditure—			
Rentals paid	1,897,770	1,819,815	1,890,381
Interest on debt	2,739,579	2,798,148	2,828,632
Dividends	1,455,430	1,117,092	835,719
Rate of dividend	6¾ p.c.	6 p.c.	4½ p.c.
Total disbursements	6,092,779	5,735,055	5,554,732
Surplus	932,015	1,390,279	1,210,164

GENERAL BALANCE AT THE CLOSE OF EACH FISCAL YEAR.

	1891.	1890.	1889.
Assets—	$	$	$
Railroad, buildings, etc.	33,708,401	32,760,682	32,431,733
Equipment	12,863,888	12,885,654	12,169,275
Real estate, etc.	3,563,918	2,961,692	2,350,079
Stocks owned, cost	5,689,238	6,185,726	6,117,783
Bonds owned, cost	14,096,714	13,638,556	13,612,760
Bills and accounts receivable	4,132,675	3,920,904	2,983,111
Materials, fuel, etc.	585,220	550,534	569,884
Cash on hand	913,685	714,418	232,624
Total assets	75,553,739	73,618,145	70,467,249
Liabilities—			
Stock, common	22,412,000	18,629,200	18,588,200
Funded debt	45,177,822	45,196,413	45,714,822
Car trusts	103,000	239,000	372,000
Wages, supplies, and due other companies	1,313,821	1,262,754	1,575,465
Temporary loans	—	2,800,000	—
Interest and rentals due	965,538	979,849	1,170,069
Other accounts	1,451,125	1,293,293	1,083,981
Contingent fund	598,477	617,194	752,548
Profit and loss	3,532,457	2,600,442	1,210,164
Total liabilities	75,553,739	73,618,145	70,467,249

THE LEHIGH VALLEY RR.

The Lehigh Valley railroad is owned in Philadelphia, and its stock, which pays a regular 5 p.c. and quotes about 50, is not largely dealt in, and more for investment than speculation. The company owns a perfect maze of lines between Pottsville, Mauch Chunk, and Scranton, which are connected with Newark by the Lehigh canal, and from there with Jersey City and a point on Staten Island opposite New York. Another line runs to Fairhaven, near Oswego, on Lake Ontario, and to points touched by the N. Y. C., while the company has just completed a fine double tracked line to Buffalo, after having run trains over the Erie *(q. v.)* from Waverly to Buffalo in connection with its steamers plying on the great Lakes.

The Lehigh Valley Railroad Company was incorporated in April, 1847, under the name of the Delaware, Lehigh, Schuylkill, and Susquehanna Railroad Company, and that name was retained until January, 7th, 1853, when it was changed to its present title by an Act of Assembly. The main line in Pennsylvania was completed in October, 1855. Other companies were merged into the system from time to time as follows: Beaver Meadow Railroad Company, 8th July, 1864; Penn Haven and White Haven Railroad Company, 5th August, 1864; Lehigh and Mahanoy Railroad Company, 20th June, 1866; Hazleton Railroad Company, 25th May, 1868; Lehigh and Luzerne Railroad Company, 16th June, 1868. The Easton and Amboy Railroad, in New Jersey, which is now operated as part of the main line, was opened in June, 1875; it was built under a separate charter, but is owned by the Lehigh Valley. The Clinton branch was opened November, 22nd 1881, and the Flemington and Paper Mill branches in 1884. The company owns the Pennsylvannia and New York Railroad, and also the Lehigh Valley Railway of New York, and leases the Southern Central Railroad of New York.

The mileage constituting the Lehigh Valley system at the present time is as follows: Main line, from Perth Amboy, N. J., to Bufialo, N. Y., 440 miles; Lehigh Valley Terminal Railway, from South Plainfield, on the New Jersey division, to Jersey City, about 25 miles; Pennsylvania and New York Canal and Railroad, 119·09 miles; State Line and Sullivan branch, Monroetown, Pa., to Bernice, Pa., 24 miles; Waverly and State Line Railroad, Pennsylvania State line to Waverly, N. Y., 0·40 miles; Loyalsock branch, Bernice, Pa., to end of track, 16·29 miles; Wilkes-Barre and Harvey's Lake branch, from Mill Hollow to Harvey's Lake, Pa., 13·46 miles; Hayt's Corners, Ovid and Willard Railroad, 3·83 miles; Lehigh Valley Railway branches in New York, 55·36 miles; Southern Central division, North Fair Haven, N. Y., to Pennsylvania State line, 114 miles; coal and other branches, 148·86 miles; making the total mileage of the system, 986·94 miles. Adding branches, second tracks, etc., the aggregate length of track owned and operated is 2,022 miles. The company operates a line of six wooden and five steel steamers on the lakes, between Buffalo and western points. These contribute a vast bulk of freight to the rail system.

The Lehigh Valley's terminal facilities on New York harbour are excellent, and consist of very extensive docks, basins, wharves, and elaborate appliances for the handling of coal and miscellaneous freights, while the Buffalo terminals are well appointed and favourably situated. The freight yards of this company are the largest in Buffalo, over 300 acres on the lake front having been acquired for these purposes some years ago. On this tract the company has constructed splendid docks, coal trestles, and freight sheds; these latter possessing storage capacity for 250,000 barrels of flour alone. A great coal storage station on Cheektowaga Creek is capable of holding a stock of 175,000 tons of coal, in addition to that handled at the shipping terminus on the lake.

In 1892 the Lehigh Valley was leased to the Reading for 999 years from December 1st, 1890, the latter company guaranteeing 7 per cent. on the stock and agreeing to hand over one-half the surplus earnings above the guaranteed dividends up to 10 per cent., after which all profits are to be retained by the lessee.

The following is a summary of operations during the last three fiscal years:—

OPERATIONS.

	1890—91.	1889—90.	1888—89.
Passengers carried	5,734,288	5,191,821	4,696,883
Tons (2,000lbs.) carried:			
Anthracite coal	10,332,854	9,101,824	9,322,425
Bituminous coal and coke	265,847	386,338	288,444
Miscellaneous freight	5,230,913	4,971,708	4,205,713
Total tons carried	15,829,714	14,459,850	13,811,582
Tons (2,000lbs.) carried one mile—			
Anthracite coal	1,025,069,807	937,363,086	1,001,194,520
Bituminous coal and coke	18,436,607	24,707,084	17,511,721
Miscellaneous freight	846,678,203	744,550,288	594,201,206
Total tons carried one mile	1,890,184,617	1,706,620,458	1,612,907,447
Average rate per ton per mile	0.774 ct.	0.780 ct.	0.805 ct.

EARNINGS, EXPENSES AND CHARGES.

	1890—91.	1889—90.	1888—89.
	$	$	$
Earnings—			
From coal	8,679,894	8,093,860	8,647,464
From miscellaneous freight	5,944,821	5,218,205	4,309,819
From passengers	2,149,298	1,954,048	1,839,729
From express and mail	158,102	157,245	145,367
From other items	396,205	304,636	160,762
From investments	1,581,951	1,704,013	1,545,912
Total	18,910,271	17,432,007	16,649,056
Oper. expenses (incl. rentals of leased lines)	13,075,910	11,951,771	11,393,475
Net revenue	5,834,351	5,480,236	5,255,580
Charges—			
General expenses, interest on floating debt, taxes, loss on Morris Canal, etc.	723,510	694,258	945,768
Interest on bonds (incl. interest on guar. bonds and stocks)	2,817,240	2,651,120	2,168,571
Dividends on pref. and com. stocks	2,027,370	2,027,370	2,018,201
	5,568,120	5,372,748	5,132,541
Balance to profit and loss account	266,231	107,488	123,039

The share capital, of which $106,300 is preferred, amounts to $40,441,310, and has during recent years paid 5p.c. interest; under the lease to the Reading a dividend of 7p.c. is guaranteed. The shares are of $50 each and their quotation fluctuates around par. The funded debt amounts to $30,000,000 (mostly 4½, 5, 6 and 7 per cents.) while interest on $18,200,000 bonds of subsidiary concerns is guaranteed.

THE DELAWARE AND HUDSON RR. AND CANAL CO.

This is an old company and a large carrier of anthracite coal, as well as owner of several railroads and a canal, the latter having been commenced in 1823, and worked regularly since its completion. The company pays a regular 7 per cent. dividend, and chiefly cultivates coal traffic with the North, and its Scranton and Wilkes-Barre termini and coal properties are connected by its own lines with Albany and the Canadian border. Its canal runs from Honesdale, near Scranton, to Rondout on the Hudson, about midway between New York and Albany, and mileage and trackage from other lines swell its revenue to a very considerable extent. The canal is 108 miles long, the total length of owned lines 197 miles, and the entire system, owned, leased and controlled, 727 miles, only 686 of which are operated. The Delaware & Hudson has at various times been presumed to be connected with Vanderbilt interests, although it is only recently that such connection has become apparent. The company is also known to be decidedly friendly towards, though in no way directly connected with, the Reading system.

Subjoined are statements relating to the company's finances.

INCOME ACCOUNT.

	1891. $	1890. $	1889. $	1888. $
Receipts—				
From coal	8,335,010	7,800,207	8,652,318	10,622,067
From railroads	10,062,324	10,468,674	9,482,975	9,554,221
From miscellaneous	711,869	911,968	822,300	552,892
Total	19,109,203	19,180,849	18,957,593	20,729,180
Operating expenses	13,511,776	13,101,176	12,992,868	14,044,710
Net	5,597,427	6,079,672	5,964,725	6,684,470
Interest, taxes & rentals	3,393,377	3,511,333	3,426,829	3,340,336
Balance	2,204,050	2,568,340	2,537,896	3,344,134

PROFIT AND LOSS.

	1891. $	1890 $	1889. $	1888. $
Receipts—				
Sales of coal	7,574,114	7,875,379	8,457,515	10,604,465
Canal tolls	55,570	58,183	59,587	56,675
Interest on invest. & miscel.	656,299	853,784	762,713	626,32[illegible]
Coal on hand Dec. 31	1,081,828	320,927	396,099	201,299
RR. earnings in Pennsylvania	1,125,694	1,693,226	1,081,517	1,041,756
Total	10,493,500	10,801,499	10,757,435	12,530,522
Disbursements—				
Coal on hand Jan. 1	320,927	396,099	201,299	183,697
Mining coal	4,966,357	4,675,519	4,757,231	5,313,138
Trans. to tidewater via Erie.	716,486	554,083	614,710	1,164,827
Transport expenses, canal, river, etc.	867,335	908,822	986,576	932,282
Interest	721,149	989,894	995,340	986,904
Terminal expenses and miscellaneous	438,454	499,973	498,548	436,262
Taxes	258,743	220,771	165,834	169,189
Balance	2,204,049	2,566,338	2,537,897	3,344,134
Total	10,493,500	10,801,499	10,757,435	12,530,523

GENERAL BALANCE AT THE CLOSE OF THE LAST FOUR YEARS.

	1891.	1890	1889.	1888.
Assets—	$	$	$	$
Canal	6,339,210	6,339,210	6,339,210	6,339,210
Railroad and equipment	9,345,802	8,534,119	7,912,506	7,457,660
Real estate	11,520,780[1]	11,459,325	11,097,451	10,894,028
Mine improvem. fixtures, etc.	3,057,144	3,083,469	2,941,515	2,839,869
Coal-yard, barges, etc.	1,084,907	1,036,331	995,206	890,208
Lack. & Susqueh. RR.	1,087,577	1,062,467	1,062,467	1,022,938
N. Y. & Canada R.R.	4,068,090	3,997,211	3,921,027	3,895,666
Cherry Vall. Sh. & Al. RR.	210,000	210,000	210,000	210,000
Mecnan. & Ft. Ed. RR.	54,998	54,998	59,972	59,972
Schen. & Mechan. RR.	214,895	214,895	214,895	213,761
Alb. & Susq. construction	345,528	382,164	215,641	93,418
Coal on hand, Dec. 31	1,081,823	820,927	396,099	201,299
Advances to leased lines	376	658,616	71,065	328,963
Advances on coal royalties	1,045,200	969,204	888,025	788,185
Miscellaneous assets	4,672,801[2]	5,575,241	5,095,368	4,176,519
Telegraph	18,708	18,708	18,708	14,735
Supplies, tools, etc.	1,723,166	1,410,776	1,552,483	1,261,877
Cash, bills and accounts receivable	1,740,226	6,011,780	3,352,279	4,932,029
Total assets	47,575,966	51,259,445	46,341,960	45,620,372
Liabilities—				
Stock	30,000,000	30,000,000	24,500,000	24,500,000
Bonds	9,829,000	15,378,000	15,378,000	15,378,000
Other accounts	1,924,198[3]	669,889	692,855	733,692
Surplus fund	5,822,768	5,211,556	5,771,105	5,008,680
Total liabilities	47,575,966	51,259,445	46,341,960	45,620,372

[1] Of this, $5,699,641 is Northern Coal & Iron Co.

[2] These miscellaneous assets include the following: Sundry bonds, $53,470; 4,500 shares Albany & Susquehanna RR., $450,000; 16,000 shares Rensselear & Saratoga RR., $1,600,200; 40,000 shares Rutland RR., $1,500,000; Adirondack RR. shares, $711,149; sundry stocks, $357,982.

[3] Interest and dividends payable January, $443,828; dividends, interest and bonds unpaid, $280,370; loans payable, $1,200,000.

THE NEW YORK, SUSQUEHANNA AND WESTERN RR.

This railway is the smallest of all coalers. It connects Jersey City, which it reaches by availing itself, under trackage agreement, of the Pennsylvania RR., with the iron district of New Jersey, Middletown and Gravel Place, the total length of its lines being 157 miles. The present company is a reorganisation and consolidation of the New Jersey Midland, and occupies no very prominent position. Prior to 1891 no dividend was paid, but a small return could be made upon the preferred stock that year. The outstanding securities of the company amount to $8,000,000 6 p.c. cumulative preferred stock, $13,000,000 common shares, and $8,230,000 bonds of various descriptions—rather a heavy capitalisation. Fixed charges can be met, but it appears doubtful whether the common stock will ever receive returns. The business, however, is progressive, freight and passenger mileage having nearly doubled since the reorganisation of the old company, owing to the development of local business and to good through connections with the Ontario and Lackawanna railroads. Net earnings last year amounted to $716,505, and fixed charges to $511,025. Below is the usual financial statement.

Revenue—	1891. $	1890. $	1889. $	1888. $
Gross earnings	1,656,522	1,592,063	1,402,466	1,445,900
Net earnings	716,455	670,946	551,438	595,910
Other income	30,051	30,401	33,527	25,828
Total	746,505	701,347	584,965	621,738
Expenditure—				
Interest on bonds	469,586	445,459	441,120	441,120
Rentals	26,446	26,446	26,491	26,497
Miscellaneous	14,993	25,776	12,955	2,699
Dividends	100,000	—	—	—
Total disbursements	611,025	497,681	480,567	470,318
Balance, surplus	135,480	203,666	103,498	151,420

THE PHILADELPHIA, READING AND NEW ENGLAND.

This company is a consolidation, under the auspices of the Phila. & Reading, of the Central New England and Western RR. and Poughkeepsie Bridge companies, which were consolidated in July, 1892, after having been in the hands of receivers for some time. By securing control of these companies—the management being vested *pro forma* in the Philadelphia and Bound Brook Railway Co.—the Reading commands the only unbroken rail connection between the anthracite coalfields and New England. The company owns 58 and leases 120 miles, and the first mortgage bonds are guaranteed by the Reading. The following has been published with regard to the reorganisation:—

"The plan contemplates the surrender of the present securities and the creation of new obligations on the joint railroad and bridge properties. The new first mortgage bonds are guaranteed, principal and interest, by the Philadelphia & Reading Company, and the new issue of securities will be as follows:—

First mortgage, 4 and 5 per cent.	$7,250,000
Income mortgage, Series A, 5 per cent., non-cum.	1,750,000
Income mortgage, Series B, 5 per cent., non-cum.	2,100 000
Preferred stock, 5 per cent.,	2,000,000
Common stock	4,600,000

Over $17,000,000 is said to have been expended on these properties, and when the lines now in course of construction are completed they will afford connection in New England with the New York, New Haven & Hartford at several points, the New York & New England, the Housatonic Railroad, the Naugatuck Railroad, the Boston & Maine Railroad, the Connecticut, and the Boston & Albany."

CHAPTER XIX.

THE PHILADELPHIA AND READING SYSTEM.

Even before it gained control of three other important coal roads, the Philadelphia & Reading was one of the most notable systems of the United States, and since the consummation of one of the most gigantic combinations ever conceived it has attained what is undoubtedly a national importance. Controlling both the production and the transportation of a commodity upon which more than upon any other the industrial greatness of the East depends, this system would be of exceptional significance even if it did not possess other features which, for almost half a century, have kept it prominently before the public.

The Reading was projected to carry coals from the anthracite coal basin in Schuylkill County to tidewater in Philadelphia. The modest line originally contemplated was little over a hundred miles long, but by degrees it grew into a system embracing over 8,000 miles of track; and although the range of its operations was extended simultaneously with its mileage, the Reading continues to devote itself chiefly to the mining and transportation of coals. But it no longer carries them exclusively to its original terminus on the Delaware; it has its own lines to Philadelphia, New York, and New England, and its own terminals on Lake Erie and Lake Ontario; it made arrangements for through traffic with the Erie, the New York Central, and the Baltimore and Ohio, and owns floating equipment and depots in almost every important centre of the East; it mines the greater part of the coal it carries, and has a passenger service on some parts of its system as excellent and on others as proportionately important as can be found anywhere in the States. In short, the Reading system of to-day represents over $500,000,000 of capital, employs 100,000 men, and in local importance excels by far any other railroad in the East.

The entire system consists of the following parts:—

Phila. & Read. RR. proper:	Lines owned	327 miles.	
	„ leased	552 „	
	„ controlled	293 „	
	Total		1,173 miles.
NewJersey Cent. syst.: (leased by Ph. & R.)	Lines owned	156 miles.	
	„ leased	506 „	
	Total		662 „
Lehigh Valley RR. system: (leased by Ph. & R.)	Lines owned and leased		1,031 „
Delaware, Lackawanna & Western (controlled by owners of Lehigh Valley).	Total operated		900 „
Phila. Reading & New England (Indirectly controlled by Ph. & Reading).	Total length		178 „
Total length of lines owned, leased and controlled by Ph. & Reading			3,944 „

In the chapter preceding this details relating to the leased systems are given, so that for the present we need only describe the Reading proper. This consists of a large number of small lines, the longest of which, the main line from Philadelphia to Reading, is but 98 miles in length, and the entire system is divided into 44 separate lines, of which 10 are owned, 19 leased, and 15 controlled: of the total 445 miles have double track and 728 single, and the total length of all lines, reduced to single track and inclusive of sidings, amounts to 2,460 miles. Most sections are provided with steel rails, which on the main lines are of the heaviest type, on branches of lighter weight; while some feeders and sidings have iron rails. The railway is in good condition throughout; indeed, a certain part of it, the main line from Philadelphia to Bound Brook, which is connected with Jersey City, is commonly regarded as the best piece of track in the country; as mentioned before (p. 114) several records have been made on this division. Yet it cannot be said that the Reading, on the whole, creates a very favourable impression, no matter at which point we see it; especially in Philadelphia it looks far from perfect. In that city it runs through a number of anything but inviting streets, the rails resting on the level ground like those of a tramway. The stations might most appropriately be called sheds, and are by no means in keeping with the requirements of such an important passenger line. They point to the regrettable fact that passenger traffic has long been neglected and does not flourish. With the goods terminus, however, it is different, and at Port Richmond, on the Philadelphia river front, the road possesses superior accommodation in vast yards, covered with tracks, sheds, and sidings, while there are excellent means for the conveyance of coals and merchandise to the water's edge. As to the passenger accommodation in Philadelphia, its inferiority is for the greater part accounted for by the secret and open opposition of the powerful Pennsylvania Railroad, which, as has been remarked in a previous chapter, for years successfully opposed the acquisition by the Reading Company of adequate terminal facilities in Philadelphia. Indeed, it is only quite recently that the Reading company succeeded in obtaining permission to build a new terminus in a very central position, at 12th and Market-streets, a few blocks above the fine Pennsylvania "depot" opposite City Hall, and in a situation a trifle better than that of the Pennsylvania terminus. This new station, whence the trains will run along an elevated road, will probably become one of the best appointed termini of the States, and there can be no doubt that it will cause a great increase in passenger traffic, for it need hardly be said that many travellers abstain from patronising the Reading on account of its bad stations in Philadelphia. To illustrate how far this goes it may be mentioned that within five years the number of passengers arriving at or departing from the Penna. RR. station increased a hundred per cent., whereas during the same period the traffic to and from the two Reading terminus only grew to the extent of fifteen per cent. Hence it may be confidently expected that improved accommodation will considerably increase the Reading's passenger traffic, especially as this road, owing to its numerous branches which radiate from Philadelphia, will enjoy special advantages in the conduct of local traffic with Northeastern Pennsylvania. A subsidiary company, the Philadelphia & Reading Terminal Company, has been formed, having a capital of $8,500,000, and guaranteeing the terminal bonds, secured by a mortgage upon the property, which are issued by the railway.

The Reading, as is well known, has its own line from Jersey City to Philadelphia, connecting with the Baltimore & Ohio RR. (*q. v.*) in its fine station on Chestnut-street. Only as far as Bound Brook (where the new line to Port Reading branches off) does this line belong to the Reading, the short section between Bound Brook being the property of the Jersey Central, over which the Reading trains run under a traffic agreement arrived at when the J. C. was leased to the Reading for the first time. As has been indicated above, this section is one of the finest pieces of track in the world, and trains which covered a mile in $39^1/_2$ seconds have been run on it. This part of the system in particular will derive considerable benefits from the completion of the new terminus in Philadelphia; at present the Pennsylvania has the lion's share of the traffic between New York and that city.

Leaving Philadelphia along the double-tracked main line, we follow the banks of the Schuylkill, a river running through a very pretty country and leading into the heart of the coal region. This little stream is lined with railways on both sides, a Pennsylvania branch running parallel with the Reading as far as Pottsville. In addition there is a second Reading line going as far as Norristown, about 15 miles west of Philadelphia. Following the main line we pass Phœnixville and Pottstown, crossing the Schuylkill at the former place, whence we reach Reading by passing along the northern banks of that river. Reading is the junction of various roads belonging to this company, and the Lehigh and Susquehanna Valley connections meet the main line at this point. The station is of a very peculiar shape, being built in the form of a triangle with concave sides, each side being reserved for trains in one of the three main directions, while the various rails meet and intersect each other at the corners, and a lawn with a splashing fountain occupies the centre of the station.

Reading is a busy city with 70,000 inhabitants, mostly employed in the manufacture of iron or in the workshops of the Reading Railroad, while numerous farms are situated on the surrounding hills, this neighbourhood being part of the "garden region" of Eastern Pennsylvania. Resuming our journey along the main line, a run of half-an-hour brings us to Port Clinton, an important traffic centre, where lines to Williamsport and Harrisburg branch off. Next we arrive at Schuylkill Haven, the head of canal navigation, and finally we alight in Pottsville, a city with a population of 20,000, where the Reading meets various branches running into the adjacent coal districts. In former times, when the mines were still owned by individuals, Pottsville was the leading coal market of Eastern Pennsylvania, but after the creation of coal and iron companies Philadelphia took its place as such, and to-day the snug little town is little more than a freight centre. It is situated in a central position between the three great basins into which the anthracite district is divided; to the north is Carbon County, with

Mauch Chunk, on the Lehigh, for its centre. These are the oldest fields in Pennsylvania, and contain the hardest coals. To the northwest and west of Pottsville we have the Middle Basin, including the Mohanoy and Shamokin Valleys, and to the southwest we find the mines of Schuylkill County, where most of the Reading properties are situated, where the line practically possesses a monopoly of the traffic, and whence it receives most of its coal freights. It is a rough and uninviting country, with a black and desolate look, chiefly caused by the forest fires which changed the green trees of the hills and mountains into one black mass. The main feeder of the road runs in a southwestern direction, and from it dozens of very short lines extend to the various mines near by. There are scores of pits and "breakers," the latter being shops built above the ground, where the hard coals are crushed into marketable shape, and where the "short" coals are cleared of refuse by means of water-jets. This latter operation is rather costly, yet it is necessary, as unwashed coals find little favour with the public because they make very bad fuel. From the breakers the coals slide into the cars with a deafening noise.

The Carbon County, Middle, and Schuylkill County basins are the principal fields tributary to the Reading system, but in the same degree as we approach the Lehigh Valley the Reading's share of the traffic falls off and the competition of other lines increases, reaching a climax in Wilkes-Barré and Scranton on the Susquehanna, which river describes a semi-circle as it runs from that town to Harrisburg. Here we find the Erie, Delaware & Hudson, Jersey Central and Lehigh Valley railroads as well as the Pennsylvania Railroad branches, all catering for traffic, and together owning a bewildering maze of tracks. As far as Scranton the country has almost everywhere the same aspect; it is rugged, barren, black, and full of steep hills, pits, and railroads. The annual output of the entire region amounts to between 35,000,000 and 40,000,000 tons of anthracite coal, and of this quantity the Reading moves about 8,500,000 (not including the coals used by the company), or about one-fifth of the total production. The directors have always maintained that this proportion is much too small, and should amount to one-third; and under recent arrangements it does not seem improbable that the Reading proper will reach the latter figure. In 1891 President McLeod secured an addition of 1,500,000 tons per annum at one stroke by entering into a contract with Messrs. Coxe Brothers, one of the largest mining firms, and since then the prospects of the company, as will be seen below, have improved considerably. Nor can it be denied that the Reading could claim a greater share. It controls the entire output of one of the most prolific districts—the Schuylkill Basin—and taps the others. It is the oldest line between the coal fields and tidewater, and moreover has the advantage of possessing a road which, so to speak, runs continuously down grade, so that business is conducted under the most favourable circumstances. For these reasons it is claimed that the Reading ought to have a greater share of the anthracite traffic, but, as we shall see below, there are still more potent reasons why the road did not get what it deemed its due proportion.

The gradual development of the Reading has been interfered with to a considerable extent by mistakes, misfortunes and malpractices. Like that of the Erie, the financial record of this company has from its earliest days until comparatively recently been far from satisfactory.

Almost as soon as the charter was obtained, malpractices began. In 1833 the State Legislature passed a Bill conferring powers to build a line of railway connecting Philadelphia with Reading, and the company issued shares to the amount of $2,000,000. The public, to whom railroads seemed adventurous enterprises, was by no means eager to subscribe, and two years elapsed before funds sufficient to commence construction were raised. As soon, however, as building operations began, the firms of John Gihon and Co., of New York, and McCalmont Bros., of London, became connected with the company as "financial agents," and shortly after their first transactions these houses secured control. In order to provide funds wherewith to complete the line to Reading they issued a first mortage loan of $1,000,000, and later bonds for $2,000,000 and $500,000 were sold to pay for extension of the line to Pottsville. These loans were not, as they should have been in order to be lawful obligations, authorised by the Pennsylvania Legislature, but the Reading rarely showed great deference towards the law; the required authorisation was granted long after the funds thus raised were spent on the railroad. In 1842 the extension to Pottsville was completed, and in that year it was stated that the company had expended $7,119,292, this amount representing the very high price of nearly $75,000 per mile of single track. As from the foregoing we have seen that but $5,500,000 shares and bonds were issued, it is clear that the company was in debt to the extent of rather more than $1,600,000, but the actual amount was appreciably higher since the bonds were sold at a considerable discount. This sale below par was unlawful, but the law was easily evaded, the bonds being sold in New York by the "financial agency" of the company, domiciled outside of the jurisdiction of the State of Pennsylvania. In 1843 a new mortgage of $2,000,000 was taken up, and in the following year another of $1,500,000; both being stated to be needed for the completion of double tracks. These were ready in 1845, having cost $9,398,354, of which $2,010,000 were share capital, $6,640,900 bonded debt, and the rest floating debt. The latter being increased, the following year saw the "cost of road, etc." raised to a little more than $10,000,000; and, by the way, during the same year the State Legislature passed a law granting one vote to every $200 of stock. Up to that date no large dividend had been paid, the road requiring constant betterments, which, it seems, were charged to revenue. Yet it was desirable to "support quotations," and in consequence a scrip dividend of 10 per cent. was declared in 1846, and one of 12 per cent. in 1847, this scrip, of course, constantly increasing the amount of stock outstanding. Meantime the issue of new bonds went on merrily, and by 1858 the "cost of road" reached the phenomenally high figure of $196,558 a mile. In that year the Lebanon branch was bought at $83,162 a mile, and the length of the road thereby increased to 152 miles. In 1860 the "cost of road" had reached the startling sum of $24,161,889, a fact which induced the State authorities in Harrisburg to pass a special act forbidding the issue of further Reading stock without previous authorisation.

So far the presidents had been supplied by the two firms of New York and London. Mr. Tucker, formerly employed by Gihon and Co., resigned his office in 1857 on account of the failure of that house, because this unfortunate event damaged the "credit" of the road. That gentleman's services being, however, indispensable, — he was the only member of the board intimately acquainted with the affairs of the company—he was made a director with the salary of a president, and Mr. Cullen, formerly of McCalmont Bros., succeeded him in the chair. But President Cullen speculated too much on his own account, and as soon as his employers heard of this, one of them came to Philadelphia, deposed him, and appointed Mr. C. E. Smith instead. Under Mr. Smith's management the road reached an unprecedented prosperity, chiefly owing to better times, but to no small extent due to the ability and foresight wherewith that gentleman conducted its affairs. Soon after his advent the war broke out, and the Navy required large quantities of fuel, which were fetched from the Delaware; and when the war was over the Reading had its part of the general prosperity which set in owing to the requirements of the exhausted South. The gross earnings of the road in consecutive years strikingly illustrate the extent of this expansion of its business; for whereas these earnings in 1861 amounted to only 2·9 millions of dollars, they reached 6·3 millions in 1863, 9·3 in 1864, 11·1 in 1865, and 10·9 millions of dollars in 1866, an increase which is remarkable even if we make due allowance for the depreciation of the currency and its consequences. In spite of the reckless policy of former years, and of the formidable fictitious element in the capitalisation of the company, heavy dividends, and earned dividends, too, were possible. But Mr. Smith preferred to redeem the floating debt as far as possible, and paid his dividends in shares, although this policy was not approved of by Messrs. McCalmont. One of the most notable acts of Mr. Smith was the opposition of a Bill in the Harrisburg Congress which would have empowered various other companies to build new lines in the coalfields; the Reading Company was represented by Attorney Gowen, subsequently its president, and succeeded in keeping the other roads outside Schuylkill County, where the Reading still has the monopoly, and where the centre of its mining and freight business is situated. This placed the railway, as far as the Southern Basin was concerned, in a more advantageous position than any other coal system in that region. The Schuylkill County fields are those nearest to tidewater, and they are so situated that trains from there to Philadelphia pass what practically is a declining plane following the Schuylkill Valley, while other lines have to ascend before they can reach the Atlantic slope. In consequence, a Reading train easily pulls 700 or 800 tons, while others up to the point where they get on downward grades have to ascend and cannot carry more than half this weight. Further, during Mr. Smith's presidency the mileage rose from 152 to 175, the train mileage trebled, a reserve fund of $2,000,000 was created, and the quotation of shares, then almost entirely held in England, rose above par. All this, it is true, would have been impossible but for the prosperous times; but it cannot be doubted that Mr. Smith possessed the faculty of taking the utmost advantage of favourable extraneous circumstances.

When Mr. Smith resigned, owing to ill-health, he was succeeded by Mr. Gowen. Again the road was driven back upon its old course, though not to the same extent as under the Tucker-Cullen reign. Yet Mr. Gowen's term of office was disastrous in its consequences, because it was under his management that the company took a step which for many years after proved its principal drawback—it became a large owner of coal and iron mines. For this new departure there were various excuses, or as they were called at the time, reasons. The price of coal was frequently reduced by over-production, which caused lower wages and strikes, and the strikes again seriously interfered with the regularity of output and traffic. Hence the coal companies were formed with the object of regulating output and prices, of increasing profits and wages, and of averting disputes. At the time it was illegal for a Pennsylvanian railroad company to become an owner of mines. But in America people are very ingenious in devising means to evade laws, and hence a separate company was formed to buy coalfields and iron mines, while the Reading held all the shares of the new concern. If the newly-acquired properties had been paid for according to their intrinsic value their purchase might not have been such a bad performance after all. But there seems to have been no end of robbery, jobbery, and "speculation" on the part of officials, and in consequence the Coal and Iron Company, with its wholesale and retail business, became a curse instead of a boon and a blessing to the parent company, especially as control of output and markets proved impossible. All coal companies which became connected with railways—and most of them did—have been involved in financial troubles from the very moment they came into existence, and the Philadelphia and Reading Coal and Iron Company has been responsible for most of the embarrassments which the railroad company afterwards got into. As an excuse for this erroneous policy of acquiring coal lands, the indirect advantages the railroad company derives, the absolute necessity of acquiring them in order to secure a profitable traffic, and their intrinsic value were repeatedly pointed out. For example, Mr. Gowen, in a circular issued in 1874, estimated the coals they contained at 5,000,000,000 tons, although in 1876, in a speech at the Cannon-street Hotel, he was more modest in his estimate, and computed them at 2,000,000,000 tons, "representing at but 25 cents a ton an intrinsic value of $500,000,000." Since several centuries will elapse before they can be sold, it need hardly be said that the "intrinsic value" is chiefly imaginary; but in spite of their obvious fallacy these figures as well as the "justifying" statements served their purpose, and the Coal Company was authorised to issue $64,000,000 of fresh bonds. New lines, mines, and canals, many of which were losing concerns, were bought or constructed, unearned dividends paid, misleading statements circulated, and so on. In July, 1874, a new general mortgage of $60,000,000 was created and issued in blocks of $10,000,000, which the public was persuaded to take up by all kinds of clever but contemptible devices. As an illustration I may mention that the first amount of $10,000,000 of the general mortgage was issued in July, 1874, under promise "not to issue the second block before 1876, and unless the company pays 10 per cent. dividend." Now, the annual report of 1874 was exceptionally brilliant, although, as is well-known, it contained false statements and false figures. In December, 1875, the "regular quarterly dividend of 2½ per cent." was declared, payable in London January 25th, 1876. Early in January, 1876, the prospectus of the second $10,000,000 block appeared, and on the strength of the fine figures taken from the report of 1874 was eagerly responded to by the public. Yet at the time this beautiful prospectus was issued the annual report for 1875, showing that the "regular quarterly dividend" *was unearned*, was at the printers. Of course there were some hearted debates in England, but so far no downright indignation.

Thus in various ways Messrs. McCalmont contrived to do whatever they liked, and the condition of the company grew worse and worse. Between 1871 and 1876, on a capital of $34·2 millions, $15·7 millions of unearned dividends were paid, and as the McCalmonts held $12,000,000 shares they received $5,600,000 of these distributions and three of their brothers-in-law got $950,000 on $2,000,000 shares. About 1876 some people began to foresee that matters would lead to a crisis, and Mr. McKean, a brother-in-law of McCalmont, sold his interest ($1,000,000 nominal), which brought the price down from 53 to 44. It is notorious that after this event Messrs. McCalmont sent £450,000 to Philadelphia "to support the market," and that one of the partners bought 100,000 shares. But so many were ready to sell that the device failed, and when these orders had been executed the quotation of Reading stock fell to 21, which absorbed the £450,000. Of course such a serious decline was not without causes, and among these was the discovery that the company had a floating debt of $7,000,000. This was accidentally found out by Mr. Smith, who was still a member of the board, and the fact was revealed that on the last day of the fiscal year this debt was transferred to the Coal Company's books in order to keep it out of the annual report. Mr. Smith asked for a committee of investigation, which was at first refused; he repeated his demand at a stormy meeting in London after he had tendered his resignation, and then it was acceded to, but the report of the committee was of little avail: it was simply suppressed.

These are but a few facts collected from a large number of pamphlets and books in the Public Library of Philadelphia. Space does not permit reference to more details, but the foregoing are sufficient to illustrate how the laws of honesty and sound financing were violated. It is evident that a company, even when possessing such intrinsic strength as has always been a feature of the Reading, cannot withstand the strain caused by dishonest and injudicious management and a heavy capitalisation, and it can therefore cause no surprise that the company in 1880 was unable to meet its obligations, and was entrusted to the temporary management of official receivers. In 1883 a readjustment plan was adopted and the receivers discharged, but the relief thus provided proved to be insufficient, and in 1884 default was again made. At the close of 1886 a plan of reorganisation was adopted, and the company resumed the control of its property on January 2nd, 1888. (It should be mentioned that the reorganisation of 1887 resulted in the Jersey Central availing itself of the opportunity offered to it to terminate its lease to the Reading.) The purpose of the reorganisation was to redeem the floating debt and receivers' certificates, to reduce fixed charges for interest and rentals, and to change existing securities in such manner and by the aid of income bonds as would cause interest upon the old securities to be payable only when earned.[1] Before

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[1] The following details refer to this reorganisation:—

The capital for conversion under the scheme was grouped as follows—the "Prior," "Consolidated," and "Improvement" mortgages, being, however, untouched by the reorganisation.

	$
New 4 per cent. general mortgage, issued for:—	
Bonds, etc., real estate	2,100,000
General mortgage, etc., scrip	1,697,220
Car trusts	2,222,000
General mortgage	24,681,000
Divisional bonds of Coal and Iron Company	12,186,000
Advances of interest on deposited bonds	3,000,000
Redemption of collaterals	3,500,000
Working capital	3,000,000
	52,386,220
New first income bonds issued to:—	
General mortgage bondholders	11,946,880
Others in exchange for cash assessments	12,463,942
	24,410,822
New second income, issued in exchange for:—	
Income bonds, 1876, convertible adjustment scrip	9,834,730
Interest to 31st May, 1887	2,325,368
Debenture and guaranteed scrip	557,569
Interest to 31st May, 1887	140,719
Five per cent. consols, 1st series, with coupons to 21st May, 1887	8,981,477
Half of 5 per cent. consols, 2nd series	3,637,526
Interest to 31st May, 1887	656,119
	26,140,518

this reorganisation fixed charges amounted to $7,577,000 for interest and $3,608,000 for rentals; after its completion a

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(*Continued from p.* 320)

New third income bonds, issued in exchange for:—	$
Half of 5 per cent. consols, 2nd series.	3,637,526
Interest to 31st May, 1887	656,119
Convertible 7 per cent. debentures	6,349,000
Interest to 31st May, 1887	1,313,362
Debentures (railroad)	652,201
Interest to 31st May, 1887	140,350
Debentures (Coal and Iron Company)	1,117,000
Interest to 31st May, 1887.	269,308
Preference stock at $55 per share	821,150
	14,956,016

—The assessment of $10 per share, of $50 on capital stock, and of 2½ per cent. on deferred bonds is represented by an equivalent amount of new 5 per cent first income bonds as stated above.

The table deals only with the fixed charges. Beyond the prior mortgage and new bond capital there will remain—

Capital stock.	$38,365,076
Deferred bonds (at issue price of 30 per cent.)	$6,225,327

There was a loss of $673,600 on the Schuylkill and Susquehanna Canals in 1885. In future no rental above earnings shall be paid in either case.

The style of old and titles of new securities and interest due thereon are officially stated as below:—

Title of Old Security.	*Amount.*	*Interest.*
	$	$
Prior mortgages	5,246,700	341,802
Consolidated mortgage.	18,811,000	1,235,150
Improvement mortgage	9,364,000	561,840
	33,421,700	2,138,792
Bonds, etc., real estate.	2,098,200	155,198
General mortgage and Perkiomen scrip	1,791,720	107,502
Car trusts	2,566,000	119,090
General mortgage	24,686,000	1,531,160
Coal and Iron Co.'s bonds, bearing interest	—	940,998
Income bonds, 1876.	3,478,000	243,460
Convertible adjustment scrip.	3,072,730	184,364
Debenture and guaranteed scrip	558,855	33,532
Five per cent. consols, first series	4,158,000	207,900
Five per cent. consols, second series	2,194,000	109,725
Convertible seven per cent. debentures.	10,416,000	729,183
Debentures (railroad).	662,300	39,738
Preference stock	846,950	—
Interest on floating debt, 1885	—	1,036,417
Largely added to in 1886. The floating debt was stated in Nov., 1885, as $23,517,623—including receivers' certificates—$9,240,957 secured by collaterals		
Total interest charges, 1885	—	7,576,999
Total rentals, 1885 (excluding Central of New Jersey)	—	3,606,807
Total rentals, 1885 . . . $9,548,450		
Less Central New Jersey . . . 5,939,643		
$3,608,807		
Total fixed charges, 1885 (excluding Central of New Jersey)	—	$11,185,806

Continued next page

reduction to $7,508,000 for interest and $2,350,000 for rentals was effected; but since the income bonds, all of which are non-cumulative, can hardly be included among fixed charges, the latter have practically been reduced from $11·18 to $6·57 millions, and the danger of renewed difficulties may therefore be said to have disappeared. Since the reorganisation, earnings have always considerably exceeded the minimum required to meet fixed charges.

The reorganisation provided for the creation of $100,000,000 4 p.c. general mortgage bonds, $24,410,822 5 p.c. 1st incomes, $26,140,518 5 p.c. 2nd incomes, and $14,956,016 5 p.c. 3rd incomes.

In proportion to its length the Reading has excellent earnings, amounting to $21·8 millions gross and $9·99 millions net, the proportion of expenses to gross receipts being unusually small; and it is mainly owing to this that the company can cope with the requirements of a capitalisation which, in relation to mileage, is exceeded by that of but few other American companies.

Below are appended statements of earnings and expenses for the three years ending November 30th, 1891, and traffic statistics relating to the fiscal year 1890/91.

Continued from p. 321.)

Title of New Security.	*Amount.*	*Interest.*
	$	$
Prior mortgages	5,246,700	——
Consolidated mortgages	18,811,000	——
Improvement mortgages	9,364,000	——
	33,421,700	2,137,607
New four per cent. general mortgage	52,386,220	2,095,448
New five per cent. first income bonds (non-cumulative)	24,410,822	1,220,542
New five per cent. second income bonds (non-cumulat.)	26,140,518	1,307,026
New five per cent. third income bonds (non-cumulative)	14,956,016	747,800
Total interest charges, under plan	——	7,508,423
Total rentals, under plan	——	2,350,000
Total fixed charges under the new plan	——	9,858,423

Traffic Earnings and Expenses.

EARNINGS AND EXPENSES.	1890-91.	1889-90.	1888-89
Railroad—	$	$	$
Passenger traffic	4,045,861	3,808,291	3,639,546
Coal traffic	17,250,085	9,305,536	8,954,004
Merchandise traffic		7,210,390	5,938,976
Miscellaneous	482,694	448,490	420,448
United States mail	75,162	71,830	65,640
Income from stocks and bonds, steam colliers, etc.	1,257,307	1,231,963	1,518,761
Total earnings RR. Co	23,111,109	22,166,450	20,537,375
Operating expenses	13,176,631	13,901,188	12,396,706
Net earnings RR. Co.	9,934,478	8,265,262	8,140,669

Traffic Statistics, 1890-91.

Passengers carried	18,828,090
" " one mile	215,691,029
Coal carried (tons)	12,013,175
" " (tons one mile)	1109,706,524
Other freight carried (tons)	10,591,935
" " " (tons one mile)	570,566,877

The following tables show the principal features of the accounts for the last fiscal year.

Income Account, Receipts, Expenses, and First Charges for the Year ending November 30th, 1891.

RAILROAD TRAFFIC.			
Earnings		$21,853,801.91	
Expenses		11,862,219.83	
			$9,991,582.08
OTHER SOURCES.			
Receipts—			
Steam colliers and sea barges	$467,582.25		
Coal barges	185,161.19		
Schuylkill canal	75,717.72		
Susquehanna canal	8,334.06		
Real estate	217,499.36	$954,294.58	
Expenses—			
Steam colliers and sea barges	$419,316.28		
Coal barges	217,859.50		
Schuylkill canal	42,319.30		
Susquehanna canal	17,487.15		
Real estate	37,174.67		
		734,156.90	
		$220,137.68	
Income from investments		303,013.22	
			523,150.90
			$10,514 732.98
From which deduct—			
Rentals		$2,838,350.85	
Interest account		4,502,882.21	
Debit balance, profit and loss		110,239 70	
Taxes		159,634.12	
Equipment dismantled		310,380.26	
			7,921,487 14
			$2,593,245.84
Less Int'r't and Sink. Funds of Divisional Mortgages of the Coal and Iron Company, guaranteed by the Railroad comp.			
Interest		$775,740.00	
Sinking Funds		395,423.19	
		$1,171,163.19	
Less—			
Profit of Coal and Iron Co.	$482,665.82		
Less—			
Interest not guaranteed	39,786.50		
		442,879.32	
			728,283.87
Leaving a surplus over first charges of both Companies of			$1,864,961.97

ASSETS.		
Railroads, wharves and terminals		$80,261,111.55
Railroad equipment.		18,666,709.78
Real estate		4,920,697.73
Steam colliers and floating equipment		1,291,243.18
Bonds and stocks owned by Company.		22,669,000.66
Philadelphia and Reading Coal and Iron Company.		
Investment of Railroad Co. in Coal and Iron Co., represented by stock, bonds and accounts		69,453,181.01
Railroad and canal leases under Reorganization Plan.		
Schuylkill Navigation Co. Value based upon securities issued under plan.	$7,451,967.03	
Susquehanna Canal Co. Value based upon securities issued under plan.	1,402,725.49	
Colebrookdale Railroad Co. Value based upon securities issued under plan.	308,588.55	
Pickering Valley Railroad Co. Value based upon securities issued under plan	177,880.15	9,341,161.22
Bonds and stocks of leased lines deposited with Pennsylvania Co. for insurance, etc., trustee		2,466,776.72
		$209,069,881.85
Cash on hand		961,872.97
Bills receivable		104,612.77
Freight and toll bills		1,004,700.90
Materials on hand		801,306.13
Leased and controlled companies for advances		2,615,873.68
Connecting railroad companies.		370,498.58
Current accounts		298,877.68
		$215,227,624.54
LIABILITIES.		
Bonds and stock as per subjoined statement.		$193,552,572.156
Notes payable and loans		1,150,000.00
Equipment notes.		3,485,306.59
Leased roads and canals, account rent due and uncollected .		239,076.83
Interest due and uncollected		750,006.67
Interest and rentals accruedt o date, but not yet payable .		1,336,725.26
Connecting railroad companies.		235,548.58
Current accounts		208,734.70
Audited vouchers and pay rolls		1,975,835.66
Taxes.		361,001.32
Surplus for year ending November 30, 1891		1,864,961.97
Balance carried to and held for account of future adjustment and suspense accounts		10,067,854.60
		$215,227,624.54

The following Statement gives details of Funded Liabilities and Stock, as shown condensed on the balance sheet.

	$	$
Prior mortgage loans:		
*6 per cent. £ mortgage loan, 1843-1910.....coupon	967,200.00	
6 „ „ $ „ „ 1843-1910..... „	545,500.00	
6 „ „ $ „ „ 1844-1910..... „	795,000.00	
6 „ „ $ „ „ 1848-1910..... „	92,000.00	
6 „ „ $ „ „ 1849-1910..... „	67,000 00	
4½ „ „ $ „ conv. „ 1857-1868..... „	1,000 00	
4½ „ „ $ „ „ „ 1857-1910..... „	78,000.00	
7 „ „ $ „ „ 1868-1893..... „	2,700,000.00	5,245,700.00
*Consolidated mortgage loan, 1871-1911:		
6 per cent. gold $ or £.....................coupon	6,999,000.00	
6 „ „ „ $........................ „	305,000.00	
6 „ „ „ $......................registered	858,000.00	
7 „ „ $ .... „	3,339,000.00	
7 „ „ $ ....coupon	7,310,000.00	18,811,000 00
*Improvement mortgage loan, 1873-97:		
6 per cent. gold $ or £.. ....coupon		9,364,000 00
Income mortgage loan, 1878-96:		
7 per cent $ ....coupon		1,000.00
*5 per cent. consold. mortgage loan, 1882-1922 1st series:		
5 per cent. gold $..........................coupon	5,766,000.00	
5 „ „ $ fractional scrip........... ...	1,042.00	5,767,042.00
5 per cent. consold. mortgage loan, 1883-1933, 2nd series:		
5 per cent. gold $..........................coupon	1,000.00	
5 „ „ $; fractional scrip..............	535.00	1,535.00
*General mortgage loan, 1888-1958:		
4 per cent. gold $..........................coupon	34,931,000.00	
4 „ „ $......................registered	3,122,600 00	
4 „ „ $, fractional scrip..............	51,058.77	38,104,658.77
*First preference income mortgage loan, 1888-1958:		
5 per cent. gold $..........................coupon	23,803,000.00	
5 „ „ $, fractional scrip	145,284.45	23,948,284.45
*Second preference income mortgage loan, 1888-1958:		
5 per cent. gold $..........................coupon	16,144,000.00	
5 „ „ $ fractional scrip..............	32,413.78	16,176,413.78
*Third preference income mortgage loan, 1888-1958:		
5 per cent. gold $..........................coupon	17,829,000.00	
5 „ „ $, fractional scrip..............	145,099.67	17,974,099.67
Bonds and mortgages on Real Estate.............		2,052,000.02
Total mortgage loans		137,445,823.69
Convertible adjustment scrip, 1883-88:		
6 per cent $..............		1,810.00
Car Trust certificates, issue of Feb. 15, 1883 coupon	400,000.00	
Car Trust certificates, issue of March 15, 1884 „	306,000.00	
Car Trust certificates, issue of July 1, 1887.. „	720,000.00	
Car Trust certificates, issue of March 1, 1890. „	2,480,000.00	3,906,000.00
Debenture loans:		
6 per cent. $, 1868-93......................coupon	1,100 00	
4 „ $, 1868-93 .... „	6,000.00	
6 „ $, 1878-98...................... „	1,000.00	
5 „ gold $, 1891-1941 .... „	4,397,000.00	4,405,100.00
Debenture convertible loan:		
7 per cent. $, 1873-93......................coupon		10,800.00
Debenture and guarantee scrip:		
6 per cent. $, 1877-82-84..............................		7,250.00
*Common stock..		40,105,361.78
*Deferred income bonds (nom. par $325,314,033.33)	7,591,210.00	
Scrip for deferred income bonds.. (nominal par $254,056.97)	79,217.09	7,670,427.09
		193,552,572.66

* = quoted in London

The general, and first, second and third preference income mortgages cover, in addition to the 327 miles of road owned, the title to leased lines (mostly leased for 999 years) all real estate, rolling stock and vessels of the company, $8,000,000 Philadelphia & Reading Coal & Iron Company stock, as well as the real estate of that company, and subject to a mortgage to Philadelphia & Reading Railroad Company dated July 1, 1874, stock in other coal and iron companies. The third preference convertible bonds were issued in exchange for the old convertible 7 per cents. They are stamped with an agreement making them convertible at option of holder into common stock.

Net earnings are defined in the income mortgages as the profits of the railroad company for each fiscal year ending Nov. 30 derived from all sources, after paying operating expenses, taxes and existing rentals, guarantees and interest charges (but not fixed charges of the same sort subsequently created); also, after deducting expenses of "renewing, replacing and repairing its said property and premises, including such reasonable improvements thereof and additions thereto as shall be necessary for the safe, proper and economical operation of the same."

In February, 1889, the first and second preference bonds received full interest, and the third 2 1/2 per cent. In 1890 only 3/8 per cent. was paid on the first incomes; in February, 1891, nil; in February, 1892, 5 per cent. on firsts and 4 1/8 per cent. on seconds.

The $8,500,000 bonds for the construction of the P. & R. Terminal RR. are the Reading's own bonds, and are guaranteed by the P. & R. Terminal RR. Co. They are also secured by a mortgage upon all the property of the Terminal Company and by a traffic contract between the Reading and the Terminal Co.

During the current year $10,000,000 Collateral Trust Bonds are to be issued concerning which the President's report said: "Arrangements have been completed for making provision for all necessary betterments, new equipment and additional property which will be hereafter required, by an issue of $10 000,000 collateral trust bonds, bearing 5 per cent. interest, which are unused and unpledged, and the proceeds will be expended only for the improvement of and additions to the present mortgaged estates. All new lines and extensions will either be of sufficient importance to provide the necessary funds independently, or their promotion will not be undertaken by the company. Within six years, and before the maturity of this loan, there will have been liberated under the plan of reorganisation an equal amount of general mortgage 4 per cents. applicable to these purposes under the mortgage. * * In this connection it is proper to add that the company owns stocks and bonds of the par value of $40,683,050, represented in the balance sheet at a cost of $22,869,000. A fair cash value of these securities exceeds $20,000,000. This does not include any of the issue of securities of the Coal & Iron Co."

The fiscal year ends November 30. Office: 227, Fourth St., Philadelphia; European agent: B. Schlesinger, 130, Dashwood House, E.C.

The fixed charges (interest and rentals) are shown in the following tables.

Interest on Bonded Debt, etc.

Loan.		*Interest Payable.*	*Rate of Interest.*	*Principal.*	*Interest.*
			p. c.	$	$
£ mortgage loan 1843-1910	coup.	Jan. & July.	6	967,200.00	58,032.00
$ „ „ 1843-1910	„	„ „	6	545,500.00	32,730.00
$ „ „ 1844-1910	„	„ „	6	795,000.00	47,700.00
$ „ „ 1848-1910.	„	„ „	6	92,000.00	5,520.00
$ „ „ 1849-1910	„	„ „	6	67,000.00	4,020.00
$ „ convertible loan 1857-86-1910..	„	„ „	4½	79,000.00	3,555.00
$ loan 1868-1893...........	„	Apr. & Oct.	7	2,700,000.00	189,000.00
Gold $ or £ consolidated-mortgage loan 1871-1911.	„	June & Dec.	6	6,999,000.00	419,940.00
Gold $ consolidated mortgage loan 1871-1911.....	„	„ „	6	305,000.00	18,300.00
Gold $ consolidated mortgage loan 1871-1911.....	regist.	„ „	6	858,000.00	51,480.00
$ consolidated mortgage loan 1871-1911...........	„	„ „	7	3,339,000.00	233,730.00
$ consolidated mortgage loan 1871-1911......	coup.	„ „	7	7,310,000.00	511,700.00
Gold $ or £ improvement mortgage loan 1873-1897	„	Apr. & Oct.	6	9,364,000.00	561,840.00
Gold $ consolidated mortg. loan 1882-1922 1st series	„	May & Nov.	5	5,786,000.00	289,300.00
Gold $ general mortgage loan 1888-1958.	„	Jan. & July.	4	34,982,656.77	1,399,306.35
Gold $ general mortgage loan 1888-1958...........	regist.	„ „	4	3,122 000.00	124,880.00
Car trust certificates, issue of Feb. 15, 1883...........	coup.	Feb. & Aug.	6	400,000.00	26,500.00
Car trust certificates, issue of March 15, 1884 Series "B"	„	Mar. & Sept.	6	306,000.00	20,145.00
Car trust certificates, issue of July 1, 1887 Series "C"..	„	Mar. & June. Sept. & Dec.	5	720,000.00	38,250.00
Car trust certificates, issue of March 1, 1890 Series "D"	„	Feb. May, Aug. & Nov.	5	2,490,000.00	138,208.33
$ debenture loan 1888-93..	„	Jan. & July.	4	6,000.00	240.00
Interest for year on bonds and mortgages..................		....	....	2,052,090.02	136,567.24
Debit balance of interest account.		....	....	———	192,938.20
Total principal and interest......		....	....	83,255,448.79	4 502,862.21

Rentals of Leased Railroads and Canals.

		$
Mine Hill and Schuylkill Haven Railroad Company..		336,816.00
Mount Carbon and Port Carbon Railroad Company..		36,250.00
Mill Creek and Mine Hill Navigation and Railroad Company		33,908.44
Schuylkill Valley Navigation and Railroad Company		30,890.12
Little Schuylkill Navigation, Railroad and Coal Co. (including East Mahony RR.)		217,092.00
East Pennsylvania Railroad Company		129,035.10
Philadelphia, Germantown and Norristown Railroad Company		296,77 .41
Chestnut Hill Railroad Company		17,201.90
Catawissa Railroad Company		338,830.00
North Pennsylvania Railroad Company		900,441 80
Delaware and Bound Brook Railroad Company		296,042.02
Swedes Ford Bridge Company		2,455 30
Schuylkill and Lehigh Railroad Company		27,000.60
Shamokin, Sunbury and Lewisburg Railroad Company		110,720.00
Pickering Valley Railroad Company		6,510.00
Colebrookdale Railroad Company		12,906.01
Allentown Railroad Company		3,267.88
Allentown Terminal Railroad Company		13,952 85
	$	2,807,081.13
Schuylkill Navigation Company	9,559.70	
Susquehanna Canal Company	21,710.02	31,269.72
Total		2,838,350.85

Until the reorganisation the financial embarrassments of the company and the inefficient management reacted very unfavourably upon its business, but since then, and most notably under the management of Mr. McLeod, the Reading has made satisfactory progress. Owing to the separation of the accounts of the Coal and Iron Company and the changes in leases, rentals, and first charges, comparative statistics covering a number of years would be of little use, but the astounding progress that has been made during the last three years is clearly demonstrated by the subjoined statement of revenue and expenditure, which shows an increase of $0·8 millions in railroad earnings and of nearly $2·00 millions in net revenue.

The Earnings, Expenses, Charges, etc., for three years were as given below:—

	1890-91.	1889-90.	1888-89.
P. & R. Railroad Co.—	$	$	$
Railroad	21,853,802	20,934,487	19,081,614
Canals	84,052	91,139	156,334
Steam colliers	467,582	410,884	436,577
Richmond coal barges	185,161	265,468	328,498
Real estate	217,499	198,952	181,179
Income from stocks and bonds	308,013	265,522	416,215
Total earnings RR. Co.	23,111,109	22,166,450	20,537,575
Operating expenses	13,176,631	13,901,188	12,396,706
Net earnings RR. Co.	9,934,478	8,265,262	8,140,669
Phil. & Read. Coa & Iron Co.—			
Total earnings	21,311,734	18,929,774	17,818,226
Operating expenses	20,829,069	19,080,932	17,966,076
Balance	net $482,665	def. $151,158	def. $147,850

INCOME ACCOUNT.

	1890-91.	1889-90.	1888-89.
	$	$	$
Net earnings RR. Co.	9,934,478	8,265,262	8,140,669
Results Coal & Iron Co.	sur. 482,665	def. 151,185	def. 147,850
Total amt. both companies.	10,417,134	8,114,104	7,992,819
Deduct—			
Rentals RR. Co.	2,838,351	2,830,744	2,842,319
Interest RR. Co.	4,502,862	4,351,412	4,085,139
Interest Coal & Iron Co.	815,526	822,126	826,523
Sinking fund Coal & Iron Co.	395,423	340,107	354,084
Total deductions	8,552,162	8,344,389	8,108,065
Balance both companies	sr. $1,864,961	def. $230,185	def. $115,246

During the year ending November 30th, 1891, there was available revenue to the amount of $10,417,000, and after all first charges had been met a balance of $1,864,000, large enough to permit of the payment of the dividend of 5 p.c. on the first incomes and of 4⅛ p.c. on the second incomes, declared in February last, remained. Yet these returns, however satisfactory in proportion to the size of the property, are by no means good if taken in their relation to the capitalisation of the company. After deducting rentals the amount of $7·6 millions was available for distribution upon a total capital of $193,000,00C, or considerably less than 4 per cent.; and in order to be in a position to pay fair returns upon all securities figuring among its liabilities, the company would have to earn several millions more than it did in 1891. That this would be impossible through mere development of its traffic is obvious; and although the management has rightly maintained that betterments, additions to rolling stock and extension of lines would swell the revenue to an appreciable extent, it has—presumably even better than others realized the fact that such improvements and their effects would not suffice to place adequate returns within measurable distance. The recognition of this has no doubt been one of the strongest among the incentives which led the energetic president to take the measures to which reference is made below.

The finances of the Reading are most intimately connected with those of the Coal and Iron Company, of which it is almost the only stockholder; indeed, the improvement in its earnings during the last two years is to no small extent due to the fact that the loss at which this company has worked during nearly every year of its existence has gradually decreased until at last it has been replaced by a profit. I have already stated that the Coal Company was acquired during the presidency of Mr. Gowen, at a price which was regarded as exorbitant. A number of pamphlets I found in that excellent institution, the Public Library of Philadelphia, seem to prove conclusively that this transaction, like so many "deals," was not free from fraud, although this accusation has been frequently contradicted; but however that may be, the present relation of this subsidiary concern to the parent company vastly differs from its former position. As is the case with so many matters pertaining to American railroads, times have changed, and with times aspects; and the view we must take of this Coal and Iron Company to-day is widely divergent from the opinion that held good twenty years ago. On the whole the impression prevails that this concern, in which the Reading has nominally invested over $72,500,000 which until recently yielded no direct returns whatever, is the principal obstruction to the financial success of the railroad company, and it surely cannot be denied that the employment of so vast a sum involves a direct loss of interest amounting, at but 4 per cent., to nearly $3,000,000 annually. But it must not be forgotten that it was absolutely necessary to incur this loss in order to make the Reading a great system. The purchase of the coal and iron mines is only one of the instances, so numerous with American railways, in which the present has been mortgaged to secure future greatness or advantages. Whether this policy in its general application is sound is a debateable question; that it was unsound in this case is plain. There can be no doubt whatever that President Gowen, granted he had no dishonest motives, committed an error of judgment when he thought it worth his while to pay so dearly for future grandeur; the Reading might have prospered in obscurity while its greatness brought it into distress. However, there is no remedy for the mistake —we must accept the situation as it is; and on examination we shall find that it is considerably better than it looks, and that the blunder was not without its compensations. In 1890 this Coal and Iron Company gave the Reading 6·8 million tons of coal freight, from which it derived, I am informed, a revenue of $8,374,970, or 41 p.c. of its total traffic earnings, whereas but 38 p.c. of the capital of the company is invested in the mines; and this 41 p. c. of its revenue is its most profitable proportion, the fact being well known that no freight can be carried as cheaply as coals. It may be regarded as certain that without this undertaking the Reading would never have got a coal traffic yielding 41 p.c. of its total freight revenue. It is of little avail to discuss what might have been; yet a certain interest pertains to speculations as to what the Reading would be now had it never acquired any mining properties. Since the development of the entire system would have been different, an inquiry into this becomes rather complicated; but the importance of these mines to the Reading cannot be better shown than by pondering over the results their disposal would have. Let us for the sake of argument suppose the Railroad Company parted with its interest in the Coal and Iron Company, and realised the amount of its entire nominal investment therein—a rather remote possibility. A reduction of a little over $72,500,000 in its capital would be thereby effected, with the result that the RR. would have to earn interest upon only $117,000,000 instead of, as now, $190,000,000. But it would lose 41 per cent. of its gross receipts, and this direct loss would be from the most profitable traffic, so that, while the company would be surrendering 41 per cent. of its gross receipts to reduce its capitalisation 38 per cent., it would at the same time be giving up that portion of its business from which the net receipts are the largest, and the Railroad Company could no longer be expected, transacting only a general merchandise and passenger business, to work at its present low proportion of expenses to gross receipts, which in 1890 was 57·4 per cent., as against 69 and 71 per cent. of other companies doing a general merchandise and passenger business. There would also be the indirect loss of the revenues that the company now derives from the transportation of the merchandise, etc., required for the operation of the Coal and Iron Company, which it can now control by reason of its ownership.

This effect upon the Railroad Company of the surrender of its interest in the Coal and Iron Company, is of course, based upon the assumption that it will thereby lose the commerce from the lands. It is almost certain that such loss would ensue, because in all probability other railways would take them. This is proven by the eagerness with which the large coal-transporting companies have always striven to possess themselves of similar properties. The greater number of anthracite coal mines are worked by corporations controlled by the transportation companies, and by individuals from ground owned by the corporations who direct the shipment of it. But it is not necessary to reckon with the certainty of the acquisition of these coal lands by rival railways. Suppose they were divided and acquired by individuals—assuming that individuals would take them. In that case they could not be worked in such a manner as to produce the tonnage that could be obtained by a corporation operating them in connection with a transportation company, for the competition of the other regions, managed almost exclusively in the interest of transporting companies, would be too great for the individuals of the Schuylkill region to withstand, while the labour troubles which would inevitably arise from the weakness consequent upon diversity of employers would revive the conditions which existed prior to the concentration of the operations under the control of one corporation, and under which it was said that all the individual operators became bankrupt. Therefore, even if the lands controlled by the Philadelphia and Reading Railroad Company could be disposed of at their cost price to individuals who would ship the product over its railroads, the present production, for the reasons named, could not only not be expected to be maintained, but would certainly steadily decline, and in sympathy with it the general business of the company would decline also. Another reason why the Railroad Company could not, for the cost of them, abandon its coal lands to any other transporting company or to individuals who could not keep up the tonnage, is that such action would render valueless all its extensive and valuable terminal and other facilities which have been specially provided for the coal traffic, together with its large investment in rolling stock for coal transportation. In addition thereto, it may be stated that the situation of the Philadelphia and Reading Railroad is quite different now from what it was years ago when it had no competitors in the Schuylkill valley. If it possessed no coal of its own to supply the industries on its line, those industries could not be quite as well supplied by competitors, and its failure in this respect would seriously affect its chances of obtaining the other traffic furnished by those industries.

The foregoing shows the importance of these coal fields, and the absolute necessity of their retention. A Reading RR. company without them would be impossible; and what we must consider is, not the fact that but for the existence of an unremunerative investment the railroad company would pay, but that in order to extend the system and to provide it with business it was deemed desirable to make this investment, and that to-day it is absolutely necessary to adhere to it. The problem now is: How can the company best turn these possessions to the advantage of its security holders? This—problem can only be solved, firstly, by increasing the output of the Schuylkill district, its source of supply, to the relative quantity that the area of that region entitles it; and, secondly, by reducing the cost of production. The president of the company, in his annual report for 1890, showed that his policy lies in both of these directions; and since considerable interest attaches to his utterances on the subject, I quote the following:—

"Theories have produced disastrous results. It will not "do to expect immediate returns from your large holdings "of unproductive coal lands. These, in good time, will reach "a value equal to the entire capital debt of your Companies. "But what is needed now is the practical development of so "much of these lands as are needed to supply the demand "for anthracite coal.

"No increase of the equipment had been made in recent "years until in 1889, and nearly the whole of that which "has been added is taken up in handling the increased "merchandise traffic alone. The following table will show that "if adequate facilities had been provided to maintain your "due share of this business, the anthracite tonnage of "your company in 1890 should have been 12,000,000 tons "instead of 7,500,000, and that almost the entire growth "of consumption during the past thirteen years has been

" absorbed by our competitors, who have increased their " facilities for placing their product upon the markets to " keep pace with the growth of the business.

	Total Shipment of Anthracite Coal.	*Percentage Transported over P. & R. RR.*	*Tons Transported over P. & R. RR.*	*Tons if Proportion had been maintained.*
1877	20,828,179	32·85	6,842,105	—
1878	17,605,262	29·04	5,112219	5,783,328
1879	26,142,689	28·47	7,442,617	8,567,873
1880	23,437,242	25·32	5,933,923	7,699,134
1881	28,500,016	24·35	6,940,283	9,362,255
1882	29,120,096	24·04	7,000,113	9,565,952
1883	31,793,027	23·31	7,410,954	10,444,009
1884	30,718,293	21·62	6,641,194	10,090,959
1885	31,623,530	21·24	6,716,837	10.388,329
1886	32,136,362	20·84	6,697,217	10,556,794
1887	34,641,018	21·81	7,555,252	11,379,574
1888	38,145,718	18·81	7,175,319	12,530,868
1889	35,407,710	20·13	7,128,695	11,631,433
1890	35,855,175	20·96	7,517,546	11,778.425

" It seems from the foregoing to be quite obvious that " but for the defect in the development of your properties, " the revenues of your business would have enabled you to " continue the payment of dividends on your capital stock.

" There is now no reason for the continuance of this " policy, and it is expected that upon the completion of the " plans now projected, the Company will be able to command " a fair proportion of the future increased traffic and to " make great progress toward restoring the business of your " Company to the position which it should occupy in the " trade. There have been contracted for upon the most " favorable terms, for delivery, during the current year, " 5,200 freight cars, of which 3,200 are large twin-hopper " gondola coal cars, and 2,000 are for use in merchandise " traffic."

There can be no more convincing proof of the soundness of these views than the good returns of the Coal Company in 1891, when it produced 800,000 tons in excess of the production of 1890 and earned $600,000 more than in the preceding year, in spite of the mild winter.

In addition we must not lose sight of the fact that, whereas formerly the Reading was compelled to give part of the production of its own mines to other railways, by 1891 its capacity was fully equal to all requirements, so that the company could even commence to cater for freight produced by other mines than its own; this was solely due to the increase of its rolling equipment above referred to.

Subjoined statements show the earnings, expenses, assets and liabilities of the Coal & Iron Company.

Abbreviated Statement of Assets and Liabilities.

Assets.	$
Coal lands	61,863,903
Other properties and improvements	19,377,334
Current assets	5,537,338
Stocks and bonds and supplies	576,229
Profit and loss 1891	332,860
„ „ previous years	995,949
	88,683,815
Liabilities.	$
Purchase money mortgage bonds on detached property	11,689,000
Bonds and mortgage on real estate	456,106
Bonds given to Ph. & R. RR. Co.	39,737,956
Loan account „ „ „	24,879,336
Debenture bonds	2,000
Capital stock	8,000,000
Current dues: to Ph. & R. RR. Co	2,071,254
„ „	1,378,211
Suspense account	469,741
	88,683,815

The Philadelphia and Reading Coal and Iron Company. Comparative Statement of Receipts and Expenses for the years 1891 and 1890.

	1891.			1890.		
	Tons.	*Amount.*	*Total.*	*Tons.*	*Amount.*	*Total.*
Receipts—		$			$	
Coal sales................	7,302,664·19	20,824,335 38		6,679,007·02	18,556,665.44	
Iron ore sales.............				4,892·14	7,702 91	
Coal rents................	296,274·14	88,456.16		372,268·02	97,245.53	
Furnace rents..............		5,500 00		36,998·00	4,315,00	
House rents.		102,494.34			103,650 08	
Land rents................		15,177.79			28,450 15	
Interest, dividends, etc...		275,770 83			131,744.64	
Total Receipts.........		$21,311,734.50				$18,929,773.75
Expenses—						
Mining coal, repairs and improvements......	7,574,666 03	11,023,741.71		6,781,705·01	10,339,217.06	
Permanent improvements		175,925.55				
Royalty of leased collieries	1,682,016·05	688,906.35		1,507,026·02	611,937.65	
Transportation of coal by rail......................		6,884,631.29			5,613,966.22	
Boat and lake freights, shipping, etc.		1,297,627.45			1,303,230.16	
Taxes on coal lands, improvements, etc.........		195,692.2			159,495 12	
Repairs of houses and furnaces....		21,651.60			22,076.38	
Other expenses.		1,218,983.30			1,148,450 08	
Total Expenses........		$21,497,159.48			$19,198,372 64	
Less value of coal added to stock................		668,090 80	20,829,068 68		117,440.77	19,080,931.87
PROFIT IN OPERATING.			$482,665 82	LOSS IN OPERATING..........		$151,158.12
Interest account, 1891..			815,526 50	Interest account 1890..........		822,126.23
Deficit			$332,860.68	Deficit................		$973,284.35

The election of Mr. A. A. McLeod as president of the Philadelphia & Reading Company, which took place in 1890, marks the beginning of a new era in the history of that corporation. Mr. McLeod had been preceded by Mr. Austin Corbin, who was deposed, much against his will, by a combination of capitalists controlling 400,000 shares and led by Mr. John Wanamaker, the "William Whiteley of Philadelphia." As Mr. Corbin's deposition at the time was alleged to be connected with doubtful practices—among others he was accused of diverting traffic from the Reading to other railways in which he had an interest—it may be well to state here that these rumours are not credited in Philadelphia, where his dismissal is asserted to have been due exclusively to his inefficient management.

Mr. McLeod found the company in a condition which was in no respect reassuring. Permanent way and rolling stock were in a neglected state, and amidst an intense competition business remained unsatisfactory owing to the lack of an energetic management. The year preceding his election had, in spite of the reduction of fixed charges effected by the reorganisation, closed with a small deficit; in short, the company was in a neglected and weak condition throughout. Nevertheless, Mr. McLeod did not hesitate to say at the beginning of his career as president of the company that within five years the Reading could be made to rank among the dividend-paying properties of the country, and from what he has accomplished since he came into power it seems that the confidence he placed in the possibilities of his road will not be belied. Applying his experience as a manager first, and firmly believing in the maxim that technical perfection is the only firm basis of financial success, he immediately set to work to improve the property as much as the finances permitted; and whilst the permanent way and stations were improved, the new rolling stock of which the company stood sorely in need was purchased by means of "car trusts." When these betterments had been effected, the new president had made himself acquainted with the requirements and possibilities in other directions; he had studied the weak and the strong points of the company, and noted its needs. In the first place he concurred in the view taken by his predecessor that the construction of a terminal railroad in the heart of the City of Philadelphia was absolutely necessary for the development of the business of the company, and he commenced at once to make efforts in that direction. In spite of the difficulties placed in his way by the opposition, open and secret, of the Pennsylvania RR. company, he obtained permission to construct the new terminus and the road leading to it because he succeeded in convincing the City Council of Philadelphia that he was working for the good of the City as well as in the interest of the company he represented. He explained the inability of the company to do the work exactly in the manner the Council desired, dilated upon the mutual advantages which should accrue from its completion even in the style which the condition of the company necessitated, and finally obtained permission to build his terminus.

The scheme of building the Port Reading Railroad was conceived next. It was necessary for the Philadelphia and Reading Railroad Company to have its own coal shipping terminus upon the waters of New York Bay, and its own line of railroad from the mouths of the mines to tidewater. New York Bay is the centre of distribution of coal for New York and the New England States, and the largest market for anthracite coal. That point was destined to become such through the rapid development of the other coal regions, from which the mineral found its tidewater shipping place by other railroads centreing there; and to place itself in a position equal to its competitors the Philadelphia and Reading Railroad Company undoubtedly needed facilities for shipping its coal on New York Bay. This necessity had been recognised by the previous managements, who went so far as to rent terminals near

Jersey City, and to give the tonnage destined for these terminals to other lines, which got the lion's share of the profits. When the Port Reading Railroad is completed the Philadelphia and Reading Railroad Company will do all its own business and take all the profits. In addition to furnishing it with facilities for doing its anthracite coal trade, this line will enable the company to carry to New York all the bituminous coal which it secured by the contract made years ago with the Beech Creek Railroad Company, but which, owing to its lack of terminals, it was obliged to hand over for transportation to the Lackawanna RR.

In the third place the new president succeeded in entering into a contract for the transportation over his company's lines of some 1,500,000 tons of coal produced by the mines of Coxe Brothers and Company, mainly because when he found that this firm wanted to have their own lateral railroads, he showed them that he could give them connections for their laterals superior to those of any other company, and provide tidewater terminals not only in Philadelphia, but also at New York Bay over the Port Reading Railroad at Port Reading. The advantages to Coxe Brothers of having laterals of their own is that they thereby save the usually high charges made when such laterals are owned by others.

These moves, however, were of but trifling importance compared with the scheme the completion of which was announced in February, 1892, when practically the consolidation of all coal lines was effected. The Jersey Central and Lehigh Valley railroads were leased, and the Delaware & Lackawanna was obtained control of through it being in the hands of people interested in the Lehigh Valley. Further, the Delaware & Hudson RR., although remaining independent, gave assurances of its friendly disposition towards the combination, and thus the latter controls the production and transportation of anthracite coals. In an interview President McLeod is reported to have said:—

"The primary object in view has been to secure more economical management in the coal trade by avoiding expensive selling agencies and heavy commissions, so that while coal will not cost any more to the consumer, the producer and carrier can get better results and secure profits by saving expenses. * * * The great benefits of the new arrangement are obvious. In addition to the splendid terminus now being constructed in Philadelphia, the Reading will acquire the magnificent terminals of the Lehigh Valley and New Jersey Central in New York Harbour. Through the Lehigh Valley's new western extension there will be provided a direct route to the Lakes and Buffalo, with a spacious terminal there. * * * In the carrying on of the coal trade, the saving in commission agency expenses, and the economies of the traffic under the new arrangements are expected to reach several millions of dollars annually, divided among the various railroads interested."

The advantages bound to accrue from this consolidation are evident. The suspension of keen competition has already led to a rise in the price of coals, and in addition the great savings to be effected must cause all companies to do well under the new arrangement. It is not necessary to enter into any calculations in regard to the financial advantages that must result, but it may be mentioned that the annual economies to the Reading alone have been variously estimated to amount from one to two million dollars. Moreover, these advantages have not been purchased dearly. The Reading pays both leased companies their net earnings, guaranteeing these to be sufficient for a 7 p.c. dividend, and is entitled to any surplus remaining after dividends of 10 p.c. have been paid. A reference to the preceding chapter will show that this guarantee is not very burdensome. In 1891 the Jersey Central earned enough for a 7 p.c. dividend. In the case of the Lehigh Valley the guarantee apparently means a sacrifice of about $550,000 per annum, that company paying only 5 p.c. on $40,000,000 of stock, with (1891) a surplus of a little over $250,000; but there is no doubt that this sacrifice can be made up for by economies alone, not by speak of the higher prices of coal resulting from the combination.

The lease of the two properties has been opposed on legal grounds, and litigation is still pending; but it is not difficult to foresee the result of this obstruction. The Reading has cleverly evaded the law, and taken care to provide beforehand against an opposition which, on account of the general prejudice against combinations, was to be expected; and there can be little doubt that the Legislatures of Pennsylvania and New Jersey will find it impossible to interfere in any way. In all probability the old hostility of the Pennsylvania RR., which exercises a powerful influence over the Pennsylvania Legislature, will assert itself, because the combination is against the interest of that company; but the Reading has seen its hands strengthened considerably, and to-day is so powerful that it need hardly fear its great opponent.

Although the combination is undoubtedly to the advantage of the Reading it has, however, this drawback, that it may revive the old agitation against monopolies and consolidation of rival interests; and for this reason I believe that the real danger threatening its success lies less in the hostility of State Legislatures, which is more or less mixed with jingoism, than in the prospect that the combination, being absolute master of the market, may raise the price of fuel in a manner detrimental to trade, and calculated to excite the indignation of the population. No doubt there is a certain amount of guarantee in the recognised foresight of Mr. McLeod, who must be aware of the danger that exists in the temptation to raise prices. On the other hand, the heads of the combination must be desirous of turning it to full account in order to make the largest possible profits; and if no restraint be put upon this desire it is to be feared that the result will be mischievous. There have been several reports of advances in the price of anthracite, which were presumably viewed with satisfaction by shareholders; they should lead rather to apprehension. The coal combination must derive its benefit from economies, and from economies alone; if it begins to impose a tax and a tyranny upon the people there can be little question that the Federal authorities will interfere at an early date.

Although the regular traffic statements enable us to see that the Reading is reaping great benefits from its bold and successful move, it is too early to discuss its full bearing. Prospects are bright, and possibilities great, but there is as yet no certainty justifying definite conclusions. All we can do, therefore, is to point to probabilities. I believe I have shown how the affairs of the company have changed within a few years. From a system which was weak in almost every respect it rose to the level of one of the strongest and most promising in the country. From the victim of an overwhelming competition it became the master of a vast market; it overcame the obstruction of the Philadelphia authorities, and got powers to construct a terminal of which it had stood in need for many years. It is building that line to New York Harbour which it has wanted so long. It leased (1891) the newly constructed Philadelphia, Harrisburg and Pittsburg railway which, connecting with the B. & O., gives it that entrance into Pittsburg which the Pennsylvania RR. withheld from it for so many years. It acquired (1892) control of that which is now the Philadelphia, Reading & New England Railway, commanding and controlling the only all-rail route between the coalfields and New England, leading across Poughkeepsie Bridge. All these amazing changes are of recent date, some even not quite carried out; hence, to formulate the benefits that must accrue from them would be impossible, and to speculate upon their consequences idle; but it is certain that, although a few years must elapse before we shall be in a position to accurately gauge their full bearing, we are justified in expecting wondrons results.

CHAPTER XX.

THE NEW YORK, ONTARIO AND WESTERN RR. CY.

The Ontario & Western is a reorganisation of the New York and Oswego Midland Railway, which was chartered in 1866 and opened for traffic in July, 1871. For various reasons, the majority of which were of a discreditable nature, this company was overburdened with a very excessive capitalisation, which was bound to lead to financial troubles at an early date; consequently little surprise was felt when the young corporation defaulted in 1873, two years after its railway had been opened. It remained in the hands of a receiver for five years, a period which sufficed to prove that the company never would be able to meet its heavy fixed charges, and its road was sold in foreclosure and reorganised in 1879, when a change of name was effected. The main purpose of the reorganisation was to convert the bonds into stock; the receivers' certificates, which, of course, had first rights upon the property, were exchanged for preferred stock, of which $2,000,000, funded in 1885, was issued. The first mortgage bonds were converted into common stock, and so were the second mortgage and other bonds and shares, the latter paying, however, assessments to the amount of 30 per cent. After the reorganisation there were $2,000,000 preferred and $58,100,000 common shares, and the assessments paid amounted to $9,429,480, with which it was intended to extend the road to Buffalo and Jersey City, thus making it a trunk line. For reasons referred to below this project was not carried out. In 1884 the preferred stock, with the exception of a small amount, was converted into 6 p.c. gold bonds, of which an issue of $4,000,000 was authorised, $2,000,000 of this emission being used for the conversion of the preferred stock, and $1,000,000 to pay the floating debt, while the remainder was reserved for the acquisition of new property. In 1891 an issue of $10,000,000 5 p.c. gold general mortgage bonds was authorised, part of which is reserved to retire the 6 p.c. just referred to, when they fall due in 1914. The present outstanding capital consists of $58,113,983 common stock, $6,000 6 p.c. old preferred, $3,444,000 6 p.c. first mortgage bonds, and $5,600,000 5 p.c. consolidated mortgage bonds; the total capitalisation amounts to $67,163,983, and therefore reaches the immense figure of $209,000 per mile owned.

The Ontario & Western was projected to run from Middletown, on the Hudson, to Oswego, on Lake Ontario, and after receipt of the $9·4 millions assessments, paid by bond and share holders in conformity with the plan of reorganisation, it was intended to build the additional lines to Buffalo and Jersey City to which I have already referred. Owing to the machinations of the projectors of the West Shore, who were connected with this company, these plans were, however, not carried out, but instead of that $3½ millions were spent upon the extension from Middletown to Weehawken, opposite New York, while the remaining $6,000,000 were to be devoted to the improvement of the existing lines. In the meantime the West Shore RR. was projected, the sponsors of that company holding the majority of the preferred stock which, in spite of its small amount, held the balance of voting power; and so it came to pass that an agreement was entered into with the West Shore which was everything except advantageous to the Ontario & Western. At first the West Shore was to have running powers over the O. & W. between Weehawken and Middletown, but this agreement was altered to the effect that the O. & W. should build the line and then sell it to the

West Shore for $10,000,000 bonds and $2,000,000 shares of that company—an agreement which, by the way, illustrates the manner in which the capital of the West Shore was inflated; it paid $12,000,000 in stock for a property which everybody knew was to cost but $3,500,000. The West Shore thus became proprietor of the new line between Middletown and Weehawken, but the Ontario & Western obtained running powers over it, for which it paid 25 p.c. of gross receipts, with a guaranteed minimum of $500,000; while in addition it guaranteed, together with the West Shore, $12,000,000 5 p.c. bonds of the West Shore & Ontario Terminal Company, which owns excellent terminal accommodations, covering 420 acres, in Weehawken. The agreements between the two companies were, however, modified in 1886, when the N. Y. Central leased the West Shore, and again in 1888; according to the last contract the O. & W. will, after 1896, have to pay only a proportionate share of the cost of maintenance and of the 4 p.c. interest on the $2,000,000 mortgage (instead of $5,000,000 as first stipulated), plus interest on expenditure up to 1886. This agreement, when coming into force, will re-arrange the respective share each company bears of the expenses on this line, the present distribution being disadvantageous to the Ontario.

The Ontario & Western system consists of the following parts:

Lines owned:		
Main Line Oswego to Cornwall	272	miles.
Branches to New Berlin, Delhi and Ellenville	48	"
Total owned	320	
Lines leased:		
Ontario Carbandole & Scranton RR.	57	"
Wharton Valley RR.	7	"
Lines operated:		
West Shore from Cornwall to Weehawken	53	"
Total owned, leased and operated	477	"

The main line directly unites Scranton and Weehawken with Rome, Utica and Oswego. It runs from the latter town to Cornwall, on the Hudson, 60 miles above Jersey City, and from Cornwall is connected with Weehawken, opposite New York, by the West Shore, whose lines it uses under the arrangement above referred to. Branches extend to various points along the route, the most important among them being that which connects with Rome, N.Y.; and the new line from Hancock Junction, N.Y., to Scranton, in Pennsylvania, is leased in perpetuity, so that it has great prospects as a carrier of coals. The railroad was built primarily with the object of becoming a freight road, and still retains its character as such; but among the numerous changes and improvements of recent years we find that passenger traffic has become more prominent, with the result that the earnings from this source at present exceed $650,000, while the goods traffic, which before the establishment of the aforesaid connection with Scranton exceeded twice that sum, now yields three times as much. The route followed is very picturesque, especially that portion adjacent to the Catskill Mountains; a circumstance inducing an ever-increasing tourist traffic, which is persistently and successfully pushed by the management; while the growth of population along the line results in an augmentation of local business generally. Yet the road remains above all a carrier of freight, especially coals, and the line to Scranton, Pa., has given a fresh impetus to this branch of business and resulted in a very material increase of traffic, as will be seen below. It is in connection with this that the prettiness of the district traversed affords reason for regret. From a tourist's point of view the Catskills are admirable; but they are hardly conducive to low working expenses, and it is chiefly the hilly nature of this country which causes operating expenditure on the O. & W. to reach the abnormally high figure of 80 per cent. But the drawbacks arising from steep grades are gradually removed, simultaneously with the commercial disadvantages; for the O. & W., like the Erie, runs through a country devoid of geographical advantages, and has to build up its local traffic.

In Oswego on Lake Ontario, and in Cornwall, the road possesses excellent means for the transfer of coals (and merchandise generally) to the vessels; and in Weehawken a trestle has been recently completed, with an admirable plant, which transfers coals to the barges by means of an endless chain with buckets, which, with one man to look after it, does the work formerly requiring 150 shovellers, with the result that a saving of 6 cents. per ton of coals is effected. The road throughout is in good condition; it is well ballasted with gravel, has steel rails, and possesses fair stations. An expensive work near Sidney, consisting of the Zig-zag Tunnel, which pierces a mountain formerly traversed by a steep and winding road, was completed in 1891. This mountain enhanced the working expenses by about $30,000 a year, and as the interest of the capital spent on the tunnel requires but half that sum, an annual saving of about $15,000 is effected. Apart from this work about $1,250,000 have of late been spent upon other improvements, the result being an increased capacity and efficiency as well as somewhat lower operating expenses. Nevertheless there is still room for improvement.

As the result of good management, the financial affairs of this company have of late years undergone a very great change for the better. Numerous improvements have been effected, and the modification of the terms on which the agreement with the West Shore was based, as well as the development of local traffic, has enhanced its earning power, while above all the completion of the new line to Scranton, which was built under the auspices of this company, has contributed to the increase in earnings. The gain in the tonnage carried in 1891, which exceeds that of the preceding year by nearly 90 p.c., is almost entirely due to the opening of this new road, which gives over 75,000 tons of coal freight per annum, and will contribute much more in times to come. The growth of business is the more remarkable because in the same year an event took place which adversely influenced the volume of traffic carried by the O. & W. Formerly this company used to work very closely with the Rome, Watertown and Ogdensburg, now part of the N. Y. C. system, and Canadian Pacific freights were sent along these two lines to New York. Since the lease of the R. W. & O. to the N. Y. C., and the traffic agreement between the Canadian Pacific, and the N. Y. C. consequent thereupon, Canadian through freights have been transferred to the Vanderbilt lines, with the result that the O. &W. has been deprived of some amount of traffic; but fortunately the financial loss is very insignificant. I am told that rates were so poor that in many instances they amounted to 0·3 cents per ton-mile, which is too low to admit of profits; hence the absorption of the R. W. & O. by the N. Y. C. was of no great consequence, because the relations with both lines remain cordial, and no considerable financial loss is inflicted. There has been some mention of acquisition of the O. and W. by the Reading interest, but as far as I can ascertain without foundation, although it cannot be denied that similar rumours contain an element of probability.

The Ontario & Western cultivates relations with coal owners, and in doing this it has adopted a very wise course. The company abstains from trying to become an owner of mines; to be such an owner may in itself be an excellent thing, but in the majority of cases the operation of mines by railways results in a loss, or at any rate carries with it that risk which is inseparable from all mining enterprises. The O. and W. follows a different policy. Upon good collateral it advances money to mines, against interest; and in return for this it receives traffic and contracts. Thus it enjoys advantages without incurring loss or risk. The policy adopted by President Fowler is undoubtedly a very judicious one, and proves an excellent substitute for ownership, which in this case would be the more difficult because the company has a very heavy capital and an exhausted credit.

It is this excessive capitalisation in addition to the abnormally high operating expenditure which causes the Ontario & Western to be a very unremunerative enterprise. During the past year its total available revenue exceeded only one per cent. of its total capital, and its gross earnings reach but five per cent. of the total stock outstanding, instead of the ten which may be regarded as the minimum the average American road should earn. And with regard to these figures it must be remembered that the company is doing much better now than it ever was before; indeed, the expansion must be deemed remarkable in its way, for without any appreciable extension except the new line to Scranton the company carries and earns, roughly speaking, twice as much now as it did five years ago, as is shown by the following:—

Comparative Statement showing development of mileage and business on the New York, Ontario & Western RR. during the six years ending June 30, 1891.

	1891.	1890.	1889	1888.	1887.	1886.
Miles of road operated end of year	477	477	424	424	422	422
Million passengers carried one mile	36·0	29·9	32·2	27·9	26·2	23·3
Million tons of freight carried one mile	1,948	1,098	849	818	550	614
Gross earnings per mile ($)	5,899	6,006	5.450	5,262	4,426	4,480
Net „ „ „	1,371	1,130	834	798	767	686
Average freight rate (cents)	1·03	1·24	1·34	1·34	1·45	1·53
Percentage operat. exp. to gross earnings	80·3	81·7	84·8	84·8	83·4	85·1

The result of this growth of business has been a gratifying gain in revenue, shown in the subjoined table:—

Comparative Financial Statement of Earnings, Expenses and Disbursements of the N. Y., Ontario & Western RR., covering four years ending June 30th, 1891.

	1891.	1890.	1889.	1888.
	$	$	$	$
Passengers Earnings	656,185	614,653	511,304	480,482
Freight "	2,013,685	1,455,994	1,123,776	1,096,731
Miscellaneous "	139,832	127,799	105,633	106,484
Total	2,809,702	2,220,446	1,740,713	1,683,897
Operating expenses and taxes	2,155,372	1,768,043	1,472,862	1,428,218
Net earnings	654,330	452,403	267,851	255,497
Other revenue	75,000	—	—	—
Total available income	729,330	452,403	267,851	255,497
Interest on bonds	453,902	203,000	205,105	182,969
Other interest	5,033	4,212		
Rentals	169,756	78,750		
Balance surplus	100,439	166,441	62,646	62,428

Last year there was available revenue to the amount of $729,330, and after payment of rentals and interest on the small amount of bonds outstanding, a surplus of a little over $100,000 remained. It need scarcely be said that out of this small sum no dividend on the enormous share capital could be paid.

The position of the company can be briefly summarised as follows: There exists the certainty of a growing revenue, and this certainty would be emphasised if the O. & W. were in a position to spend more money upon betterments: at the same time it seems desirable to devise some means that would pave the way for the distribution of a dividend, however small, upon the share capital. It appears that the management has succeeded in effecting a compromise between the wants of the company and its conditions. The issue of another general mortgage, this time consisting of 4 p.c. bonds and amounting to $20,000,000 has been sanctioned at a recent meeting by 436,895 consenting against but 100 dissenting votes. The new bonds are for 100 years and carry 4 p.c. interest. The $4,000,000 6 p.c. first mortgage bonds now outstanding can be retired any dividend day by the payment of $4,400,000; and $5,500,000 of the new bonds will be devoted to this purpose, reducing the annual interest charge by $20,000. The 5 p.c. mortgage maturing in 1899 is outstanding to the extent of $5,600,000, and an amount of the four per cents. requiring the same annual charge for interest will be set apart to insure the retirement of the fives whenever it may prove expedient; $7,000,000 of the fours will accordingly be retained for this purpose, the result being that $7,500,000 of the general four per cent bonds will remain in the treasury, available for present or future requirements of the corporation. The present needs are chiefly comprised in a modest addition to cars and locomotives, the construction of docks and coal trestles at Cornwall[1]) similar to those which the company already has at Weehawken, and some portion of capital to be available in assisting development of collieries tributary to the company, largely secured by mortgages or otherwise upon the properties. It is intended to issue within the year an amount not exceeding $1,000,000 of the new fours, to be used from time to time to provide means for the above and similar purposes, which will entail an additional charge of only $20,000 per annum, after making allowance for the saving, shown above, in the interest on the first mortgage sixes. In addition a committee has been appointed to inquire into the feasibility of an exchange of the present common shares into first and second preferred and common shares, and this exchange, if carried out—and no doubt it will be in due course—will render possible a division of the annual surpluses that may be confidently anticipated.

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[1] These have been completed by this time.

Subjoined is a copy of the last balance sheet issued by the company:—

Balance Sheet, June 30th, 1891.

	$
Assets—	
Franchises and property	64,776,850
Investments in other companies	3,071,530
Cash at bankers	50,200
Stores, fuel, etc., on hand	190,245
Sundry accounts due company	649,193
Traffic accounts due company	109,422
Loans secured by mortgages	422,044
Miscellaneous	25,740
Total assets	69,295,225
Liabilities—	
Common stock	58,113,983
Preferred stock	6,000
First mortgage 6 p.c. bonds	3,444,000
Consol. first mortgage 5 p.c. bonds	5,600,000
Revenue balance	456,741
Interest due and accrued	104,071
Sundry accounts due by company	302,843
Traffic accounts due by company	131,599
Wages for month of June	111,463
Loans and bills payable	504,267
Whar. Valley Railway construction fund, balance	55,264
Hancock & Pa. RR. do. do	147,657
Profit and loss	317,337
Total liabilities	69,295,225

NOTE:—*Financial statements, etc., for the year 1891—92 are given in the Appendix.*

CHAPTER XXI.

THE NEW ENGLAND GROUP.

The railroads of New England present many contrasts with those of most if not all other parts of the Union, a fact closely connected with the exceptional position occupied by this small but vital part of the Great Republic. Maine, Vermont, New Hampshire, Massachusetts, Rhode Island and Connecticut may collectively cover a smaller area than any Western State, but they are ahead of all in density of population, in wealth, and in industrial importance. Within the narrow limits of his home the brainy New Englander has contrived to concentrate many of America's greatest industries, and this in spite of the disadvantages arising from the fact that for the supply of his raw materials, and even of his fuel, he depends upon other and distant parts of the Union. Cotton, wool, hides and metals are brought hither from remote regions and transformed into textiles, shoes, tools, machinery, and a hundred other articles to the production of which the inventive genius of the shrewdest class of men applies itself; and all these articles of merchandise are distributed throughout the country, and follow the enterprising sons of New England to whom, more than to any other class of men, the development and the greatness of the Republic are due.

Boston (population 448,000) is the commercial focus of New England, a centre of finance and shipping, and the seat of vast industrial enterprise. Throughout Massachusetts, of which it is the capital, hundreds of industries flourish, and there are not many spots in the entire State from which no tall chimneys are visible. Its most important products are textiles, boots and shoes, machinery and watches. In America everybody wears ready-made boots, and more than a hundred millions of them are manufactured annually in New England; Springfield, Lowell, Worcester, and scores of other places subsist almost entirely on these great industries. By far the major portion of the population is employed in manufactures, and agriculture becomes less and less profitable, while rural districts are rapidly depopulating, chiefly owing to the competition of the West with its cheap lands and low railroad rates.

Whether the New England industries will retain their predominance is an open question, concerning which opinions differ. At present the raw produce of the South and West is carried to New England, transformed into manufactured goods, and shipped back to the place whence it came in its crude condition; but new industrial centres are everywhere rapidly coming into existence in regions hitherto merely producers of raw materials; large works are being erected by the score in the very heart of States producing iron, cotton, wool, etc., and as the cost of transportation over a distance of thousands of miles is thereby saved, while at the same time labour in some cases is cheaper, New England will not much longer produce the agricultural implements used on Western farms nor the cotton shirts affected by the negroes while they pluck the "lint" from the stacks. It seems, therefore, that New England will gradually lose its relative importance as an industrial centre, although in a growing country this does by no means imply that its industries will decline.

Throughout these States there is a dense network of railroads, the total mileage of which now exceeds 7,000 miles. As a class, as I have said before, they differ entirely from other lines, chiefly because the movement of those staple articles which on account of the small profit their transportation yields are termed "low freights" does not preponderate over a highly developed local traffic; and in connection with this last feature they have characteristics which the majority of American roads lack, such as good rates and a vast passenger traffic. For these reasons the following statistics should not lead to inferences regarding American railroads in general, although they are decidedly interesting on account of the insight into the working of railroads which they give. For most of the figures I am indebted to the courtesy of Mr. Robert P. Porter, Superintendent of Census, Interior Department, Washington, who supplied them to me with dispatch and with a commendable absence of "red tape."

	1890.	1880.
Number of passengers	103,374,000	52,221,000
Tons of freight	35,295,000	24,003,000
Earnings, passengers.	$33,477,000	$21,405,000
„ freight.	$34,001,000	$25,683,000
Total revenue.	$69,475 000	$49.001,000
Length (miles)	6,942	6,021
Employees	49,566	32,585
Passenger cars	3,803	2,622
Freight „	49,140	35,051
Engines.	2,151	1,616
Earnings per passenger-mile	1.92c.	2.19c.
Earnings per ton-mile	1.42c.	1.84c.

Whereas on all railroads of the United States the average revenue from freight is more than 150 p. c. larger than that from passengers, on this particular group the receipts from the two sources are nearly alike. Taking this circumstance into consideration, we find that, looked upon from the point of revenue, fourteen freight cars yield the same as one passenger carriage, and that three passengers pay as much as one ton of freight. The development of business is clearly shown by the fact that in ten years the revenue increased 40, while the mileage only grew 15 per cent.; but whereas goods traffic increased 32, the earnings from passengers rose 56 per cent. Nevertheless, this, general increase has been by no means as important as that on the Western roads during the same period, as is shown by statistics relating to other groups.

The following table gives data showing the equipment of New England railways. As the proportionate equipment of American roads is a matter of great interest, the figures are placed side by side with the statistics relating to the New England group.

	1890. *N. Engl.*	1890. *U. States*
Passenger engines per 100 miles of line	16	5
Freight engines per 100 miles of line	12	10
Freight cars per 100 miles of line	752	557
Passengers cars per 100 miles of line	58	17
Tons freight carried per engine	44,397	35,643
Annual ton-miles per freight engine	2,928,258	4,583,786
Passengers per engine	102,755	58,444
Passenger-miles per engine	1,545,409	1,430,105
Freight cars, per 1,000,000 tons	1,370	1,583
Passenger cars, per 1,000,000 passengers	38	54
Number of employees per 100 miles	761	—

A statement showing the amount of traffic for which the employment of one man is necessary indicates that for every man employed 1,380 tons of freight and 4,029 passengers are carried annually.

After these statistical data, which are of greater interest to "railroad people" than to the general reader, let us say a few words about the relations between the New England railways and the others of the United States. Owing to its situation the New York Central, whose line by the Hudson runs along the border of New England, and, as it were, cuts off New England traffic from the rest of the States, is the principal railway controlling New England business since nearly all through traffic with the West has to cross its lines. The Boston and Albany is its ally, and the interchange of traffic at Albany is very important, the bulk of New England merchandise being sent to the West along Vanderbilt lines. The Fitchburg RR., however, also receives a considerable volume of Western freight carried along the Erie and Delaware and Hudson railroads, and likewise the N. Y. & N. E. (see p. 213—14). From New York, Boston is reached along the N.Y., N. H. and H., and the N.Y. and N. E., the former running into the Central Station in 42nd-street by using the Harlem road. Traffic with other Southern points, notably Pennsylvania, is conducted along Poughkeepsie Bridge (now controlled by the Reading) which crosses the Hudson at Poughkeepsie, and the circumstance that this is rather a roundabout way induced Mr. Austin Corbin, who is now President of the Long Island Railroads, to project a new route from Philadelphia to Boston, evading Poughkeepsie Bridge by running along Staten Island and Long Island, and crossing New York Harbour and Long Island Sound by means of ferries. A glance at the map will show that this route shortens the journey to Boston considerably, and if Mr. Corbin has the support of the Pennsylvania Railroad, as is said he has, the introduction of a new competing element may revolutionise traffic with the busy north-east corner of the States. In addition the Grand Trunk of Canada and the Canadian Pacific (the former touching Portland, Me., and forming a junction with the Central RR. of Vermont) connect with the West and Northwest.

Among the numerous companies constituting the New England Group the following are the principal. To the name of each the mileage of all roads operated is added, and also an indication of their principal terminals:—

	Mileage.	*Termini.*
Boston & Albany.	389	Boston, Albany.
Boston & Lowell	369	Boston, Lowell, etc.
Boston & Maine	1210	Portland and North Maine.
Maine Central	321	Boston, Portland.
Central of Vermont	731	Points in Vermont with Ogdensburg and Boston connections.
Fitchburg RR.	436	Boston, Albany.
New York & New England. . . .	508	Boston, New York.
New York, New Haven & Hartford	644	New York, Hartford, Providence.
New York, Providence & Boston and steamers		Worcester, New London and Boston connections.

THE BOSTON AND ALBANY RR.

This line connects Albany, N.Y., with Boston, and, as is well known, is part of the Vanderbilt system. Although its component parts are older, the company has existed in its present form since 1867, when the Boston & Worcester and Western RR. were consolidated. The corporation has a bonded debt of $10,858,000 and a share capital of $20,000,000, both being chiefly owned by the Vanderbilt interest. A cash dividend of 8 p.c. has been paid regularly for a number of years, in addition to two small scrip dividends.

Below are condensed statements taken from the three last annual reports.

TRAFFIC STATISTICS AND EARNINGS.

Operations—	1891-92.	1890-91.	1889-90.
Passengers carried.	12,0 mill.	11,6 mill.	11,2 mill.
Passenger mileage.	217,7 "	211,8 "	201,1 "
Freight (tons carried). . . .	4,2 "	3,9 "	3,8 "
Freight (ton-mileage)	446,6 "	401,0 "	402,2 "
Earnings—	$	$	$
Passengers.	4,018 100	3,883,452	3,768 860
Freight.	4,725,913	4,373,988	4,446,586
Mail, express, etc.	1,119,303	958,782	935,623
Total gross earnings.	9.863 316	9,216,222	9,151,069
Operating expenses—			
Maintenance of way	1,610,859	1,565,151	1,162,471
Maintenance of equipment. .	1.453 656	1,189,433	1,218,837
Transportation expenses. . .	4,154,324	3,876,126	3,722,862
General.	184 344	177,041	172,607
Total (including taxes). . . .	7.403,183	6,807,751	6,276,777
Net earnings.	2,460,133	2,408,471	2,874,292

INCOME ACCOUNT.

	1891-92. $	1890-91. $	1889-90. $
Net earnings	2,460,133	2,408,471	2,874,292
Disbursements—			
Rentals paid	78,000	78,000	78,000
Interest on debt	517,067	662,900	662,900
Dividends (8 p.c.)	1,800,000	1,600,000	1,600,000
Total disbursements	2,395,067	2,340,900	2,340,900
Balance, surplus	*65,066	67,571	533,392

BALANCE SHEET, JUNE 30.

	1892. $	1891. $	1890. $
Assets—			
Cost of road and equipment	27,514,117	27,514,116	27,514,117
Hudson River bridges	475,485	475,485	475,485
Other permanent investments	1,938,378	1,913,704	1,820,051
B. & A. 7 p.c. bonds	—	305,611	—
Materials and supplies	301,477	468,566	325,063
Due from companies and individuals	365,164	765,164	415,164
Trustees' improvement fund	1,793,832	1,662,699	1,559,109
Cash	849,804	638,909	943,987
Total assets	33,742,255	33,742,255	33,052,976
Liabilities—			
Stock, common	25,000,000	20,000,000	20,000,000
Payments on January, 1892-stock	—	527,320	—
Funded debt	5,875,000	10,858,000	10,858,000
Interest and rentals due and accrued	49,725	195 558	195,558
Unclaimed dividends and interest	562,76	401,809	402,758
Ledger balances	96,996	259,200	267,454
Improvement fund	1,403,528	1,278,010	1,180,106
Sinking fund and miscellaneous	127,804	122,188	116,500
Profit and loss	122,229	100,168	32,597
Total liabilities	33,238,257	33,742,255	33,052,976

(The balance sheet shows amounts of share capital and funded debt; of the former $30,000,000 are authorised.)

BOSTON AND LOWELL RR.

This company owns 89 and leases 280 miles of railway interconnecting Boston, Lowell, and other important points in and around Massachusetts. In 1887 its property was leased for 99 years to the Boston & Maine, which pays as rental 7 p.c. on the share capital until 1897 and 8 p.c. thereafter. This progressive rate seems justified by the increasing return upon the capital of this company, which rose by degrees from 4 p.c. in 1881 to 6½ p.c. in 1887. For capitalisation see under Boston & Maine.

BOSTON AND MAINE RR.

The Boston and Maine is a consolidation of various lines which together form the most extensive system of New England. The railway connects Boston with Portland, Me., where it meets the Maine Central (which it controls) and the Grand Trunk, and touches numerous other points and junctions in Maine, New Hampshire and Massachusetts. Until 1890 the company owned but 124 miles out of the total of 1,209 which it operated; but in 1890 amalgamation with the Eastern RR. of Massachusetts and the Portsmouth & Conway RR., which formerly had been leased, took place; in consequence the mileage owned to-day is 316 miles out of a total operated of 1,210. The present company has the same capital as the three of which it is composed, although common stock was redistributed owing to the superior value of original Boston & Maine shares. Bonds and preferred shares of the Eastern RR. simply became B. & M. securities.

The property is in fair condition, steel rails of a light weight being found on all main lines. Passenger traffic is unusually large, yielding a little more than merchandise which for the greater part consists of local New England freight, carried at very good rates. Although the latter are undoubtedly declining they have not prevented the growing business from yielding more as time went on. The following traffic statistics have been issued:

Traffic Statistics, Boston and Maine RR.

Years ending Sept. 30.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers one mile.	*Rate, — Cents.*	*Revenue, — $*	*Million tons one mile.*	*Rate, — Cents*	*Revenue, — $*
1887	609	289·7	1·825	—	144·6	2·217	—
1888	1,209	335·1	1·937	6,489,565	291·6	1·955	5,700,569
1889	1.2 0	379·6	1·802	6,845,715	334·0	1·857	6,203,431
1890	1.210	408·5	1·799	7,347,201	432·2	1·647	7, 18,563
1891	1.210	413·4	1·818	7,514,771	428·9	1·624	7,011,127

The following table shows earnings, expenses, revenue and expenditure for the last four years, ending Sept. 30th.

	1890-91.	1889-90.	1888-89.	1887-88.
	$	$	$	$
Earnings—				
Passenger	7,514,771	7,347,201	6,845,715	6,489,565
Freight	7,011,127	7,118,583	6,203,431	5,700,569
Mail, express, etc.	656,764	625,907	612,661	534,385
Total gross earnings	15,182,662	15,091,691	13,661,807	12,724,519
Expenses—				
Maintenance of way, etc.	2,092,716	2,242,402	1,910,259	2,002,351
Maintenance of cars	940,538	1,053,652	909,910	897,407
Motive power	2,795,703	2,749,289	2,503,478	2,347,319
Transportation	3,858,656	3,500,919	3,288,606	3,048,061
General	357,862	342,411	282,855	314,412
Taxes	683,210	678,540	584,357	632,196
Total expenses	10,728,685	10,567,213	9,479,465	9,241,762
Net earnings	4,453,977	4,524,478	4,182,342	3,482,757
Revenue—				
Net earnings	4,453,977	4,524,478	4,182,342	3,482,757
Interest, rents, etc.	497,334	439,500	397,325	386,279
Total	4,951,311	4,963,978	4,579,667	3,869,036
Expenditure—				
Rentals	2,018,090	2,576,381	2,933,517	2,862,902
Interest on bonds	982,224	580,544	356,941	324,378
Other interest	181,077	150,757	109,853	51,486
Sinking funds	68,381	100,000	37,095	11,779
Dividends	1,329,030	1,042,211	630,000	630,000
Rate of dividend	9 c.; 6 pref.	9½ c.; 3 pf.	9 per cent.	9 per cent.
Eastern RR.	———	———	436,000	———
Total	4,578,802	4,449,893	4,503,406	3,880,545
Balance	Sur. 372,509	Sur. 514,085	Sur. 76,261	Def. 11,509

The capitalisation of the B. & M. consists of $17,302,300 common shares and $3,149,800 preferred, as well as $17·1 million bonds of various descriptions, including Eastern of Massachusetts and Portsmouth & Conway issues. The company also guarantees 7 p.c. (later 8 p.c.) rental on $5,529,400 Boston & Lowell stock (*q. v.*) and $7·3 million B. & L. bonds.

CENTRAL VERMONT RR.

This company leases all of its lines, which are mostly situated in the State of Vermont, the connection with Ogdensburg, N.Y., being the most notable exception. The system is connected by ferry with the Canadian Pacific, and at another point unites with the Grand Trunk; in consequence, the road has some through traffic for Boston which it gives to other lines, chiefly the Old Colony RR. The total length of the railways operated by the company is 731 miles. During 1890—91 earnings on 631 miles were: gross, $4,541,359; net, $1,399,405; available revenue, $1,418,917; surplus, $4,155.

FITCHBURG RR.

The foundation of this company was laid as early as 1842; to-day it embraces 436 miles of excellent road between Rotterdam Junction (Albany) and Boston which render it a formidable competitor of the Boston & Albany. In a measure the Fitchburg RR. is State-supported, the State of Massachusetts holding $5,000,000 of its common stock, which pays no dividend; on its preferred stock 3½ p.c. was paid in 1891. The capitalisation of the company can be seen from the subjoined balance sheet. The line is notable chiefly on account of the Hoosac Tunnel, one of the longest in the world, which measures 4¾ miles from end to end, took 20 years to construct, and cost $16,000,000. The expense was borne by the State because the tunnel shortens the route between New England and the West. The Fitchburg RR. works under close agreement with the Delaware & Hudson and Erie RR., which see.

Subjoined are statements showing earnings, expenditure, and condensed balance sheet:—

Statistics of Traffic on the Fitchburg RR.

Years ending June 30.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile*	*Rate,* — *Cents.*	*Revenue,* — $
1887	345	74·0	1.89	—	236·9	1.13	—
1888	369	85·3	1.97	—	303·0	1.09	—
1889	369	88·6	1.94	1,712,886	350·0	1.04	3,574,508
1890	369	91·7	2.17	1,755,765	390·0	1.02	3,961,776
1891	436	108·8	1.37	2,192,422	437·2	1.00	4,387,900

Years end June 30.	1891-92.	1890-91.	1889-90.	1888-89.
Total miles operated	436	436	369	369
Earnings—	$	$	$	$
Passenger	——	2,192,422	1,755,765	1,712,886
Freight	——	4,387,900	3,961,776	3,574,593
Miscellaneous	——	270,682	541,993	460,506
Total gross earnings	7,348,805	6,851,004	6,259,534	5,747,985
Operating expenses	——	4,917,538	4,350,008	4,263,080
Taxes	——	215,927	175,598	127,712
Total expenses	5,336,778	5,133,465	4,525,606	4,390,792
Net earnings	2,012,027	1,717,539	1,733,928	1,357,193
Percentage of operat. exp. to earnings, (excluding taxes)	69 57	71 78	69·74	73·80
INCOME ACCOUNT.				
Receipts—	$	$	$	$
Net earnings	2,012,027	1,717,539	1,733,928	1,357,193
Disbursements—				
Rentals paid	260,980	274,980	271,980	281,280
Interest on bonds	945,271	869,068	799,153	762,806
Other interest	18,793	20,216	8,263	27,875
Dividends	649,238	562,750	261,836	——
Total disbursements	1,874,282	$1,727,014	$1,341,232	$1,071,961
Balance	Sur$137,745	Def. $9,475	Sur. $392,696	Sur.$285,232

The report for 1892 being preliminary no copy of balance sheet can yet be given.

GENERAL BALANCE SHEET, JUNE 30.

	1891.	1890.
Assets—	$	$
Construction	5,441,376	5,441,376
Equipment	3,816,836	3,733,601
Boston Barre & Gard. construction	958,509	958,509
Troy & Green. RR. & Hoo. Tun. consol.	11,787,785	11,787,785
Hoo. Tun. Dock & El. purchase	2,031,744	2,031,744
Troy & Boston consolidation	4,333,300	4,333,300
B. H. T. & W. R'y purchase	7,024,883	7,015,233
Cheshire RR. consol.	3,525,000	——
South Vt. RR. purchase	175,000	——
Permanent improvements	2,100,660	1,957,365
Investments	3,250,442	2,134,977
Cash	206,398	557,313
Bills and cash accounts receivable	1,153,575	1,095,053
Materials and supplies	1,012,418	765,664
Total	46,817,926	41,811,920

Liabilities—	$	$
Stock, common	7,000,000	7,000,000
Stock, preferred	16,497,600	13,775,100
Funded debt	20,801,600	18,534,600
Notes payable	675,000	780,000
Vouchers and accounts	769,735	631,074
Dividends	231,949	262,434
Interest	288,663	241,585
Other accounts	280,183	304,447
Profit and loss surplus	273,197	282,672
Total	46,817,926	41,811,920

THE MAINE CENTRAL.

This railroad is controlled by the Boston & Maine through ownership of $2,364,375 stock. Its lines are mostly situated in Maine, and have an aggregate length of 821 miles, of which 345 are owned; the company owns the majority of stock of most of its leased lines. The capitalisation is very moderate, and consists of $4,481,400 common stock, which has paid 6 p.c. dividends since 1884. The funded debt divided into some twenty varieties amounts altogether to $15,178,000, requiring $899,000 annually for interest. The following table, copied, by permission, from the *Chronicle's Investors' Supplement*, shows the condition of the company's finances:—

Years end Sept. 30.	1890-91.	1889-90.	1888-89.	1887-88.
Miles operated	821	741	647	627
	$	$	$	$
Total gross earnings	4,324,905	4,226,465	3,828.162	3,389,007
Total net income	1,421,601	1,411,563	1,332,039	1,199,044
Disbursements—				
Rentals paid	360,093	284,655	233,427	192,573
Interest on bonds	828,189	821,165	798,391	734,031
Dividends	215,628	215,616	215,616	215,604
Total disbursements	1,403,910	1,321,436	1,247,434	1,142,208
Balance, surplus	17,691	90,127	84,605	56,836

Traffic Statistics:—

Year ending Sept. 30.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers one mile.	*Rate, — Cents.*	*Revenue, — $*	*Million tons one mile.*	*Rate, — Cents.*	*Revenue, — $*
1887	535	56·0	2.47	1,384,226	68 5	2.33	1,599,688
1888	542	61·7	2.41	1,484,876	82·7	2.10	1,743,521
1889	629	66·4	2.48	1 645,336	97·7	2.03	1,991,020
1890	692	69·3	2.57	1,777,990	109·9	2.03	2,231.457
1891	821	75·9	2.42	1,838,221	127·9	1.77	2,269,740

NEW YORK AND NEW ENGLAND RR.

As one of its two direct connections with New York, this railway is of great importance to New England generally; it joins Boston, Providence, Springfield, Worcester and other leading manufacturing centres with New York, into which it effects an entrance by using the New York Central terminals under agreement with that Vanderbilt line. The total system now embraces 508 miles, of which 360 are owned, and controls a line of coasting steamers. The present company is a reorganisation of the Boston, Hartford and Erie (1873) and was in the hands of a receiver during the years 1884 and 1885; since then all first charges have been met, and the full dividend on preferred stock paid. It appears, however, that the company lacks the proper facilities for handling a large traffic, and hence, while during 1891 business on most New England lines increased considerably, it remained as nearly as possible unchanged on this particular route, as is shown by the following statement of operations for the last seven years:—

Statistics of Traffic on the New York and New England system.

Year.	*Average Mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1885	380	58·8	1.94	1,139,916	107 6	1.81	1,850,266
1886	380	63·9	2.02	1,296,896	135 5	1.67	2,262,479
1887	386	66 4	2 08	1,386,488	152·7	1.63	2,485,913
1888	467	83·3	2.12	1,786,815	219·5	1.43	3,137,845
1889	476	97·4	2.02	1,979,525	234 7	1.36	3,196,851
1890	477	102·4	1.96	2,004,635	282.3	1.22	3,445.358
1891	508	102·0	2 09	2,145,228	317·9	1.15	3,646,509

(Fiscal years until 1889 terminate Sept. 30; 1890 June 30; 1891, Dec. 31.)

Subjoined are statements showing detailed earnings and expenses for 1891 and revenue for 1887—1891.

EARNINGS AND EXPENSES FOR 1891.

Earnings from—	
Passengers	$2,154,228
Freight	3,646,509
Mail, express, etc.	428,293
Total	$6,229,030
Expenses—	
Maintenance of way	$506,240
Maintenance of cars	272,926
Motive power	1,525,746
Transportation	1,787,132
General, etc.	221,302
Total expenses	$4,313,346
Net earnings	1,915,684
Percentage of operating expenses to earnings	69·25

REVENUE AND EXPENDITURE FOR FOUR YEARS.

	1891.	1890.	1888-89.	1887-88.
Mileage	508	477	476	467
	$	$	$	$
Total gross earnings	6,229,030	6,029,125	5,563,408	5,268,408
Net earnings	1,915,684	2,007,857	1,844,575	1,747,816
Other receipts	7,204	9,301	3,699	5,043
Total revenue	1,922,888	2,017,158	1,848,274	1,752,859
Rentals paid	460,240	410,793	383,272	353,744
Interest, etc	1,116,056	1,043,384	1,013,133	999,238
Taxes	264,764	283,800	251,640	229,010
7 p.c. div. on pref. stock	210,000	189,000	170,341	139,416
Total disbursements	2,051,000	1,926,977	1,818,386	1,721,408
Balance, surplus	—	90,187	29,888	31,451
" deficit	128,172	—	—	—

The technical deficiency to which reference has been made above will no doubt be speedily removed, the issue of $25,000,000 5 p.c. consolidated mortgage bonds having been sanctioned by the Legislature and by the shareholders in order to provide funds for betterments; as existing bonds amount to but $16·3 millions, there will be ample funds for this purpose. Apart from bonds there are $19,718,000 common and $3,665,000 7 p.c. cumulative preferred stock outstanding.

The last annual report issued says:

"The dividends on the preferred stock paid during the year amounted to $210,000, so that the company's books as of December 31st, 1891, show an apparent failure to earn the dividends paid by $128,173. If, however, we take into account the net results of the twelve months comprising the two dividend periods for which dividends were paid in the year 1891, that is, if we reckon from October 1st, 1890, to September 30th, 1891, it will be found that there was a net surplus above the dividends paid of $19,520. The net income of the year has been decreased by charging off various amounts which have accumulated in previous years, and which cannot be considered at the present time as reliable assets, having been mainly carried in former reports as debit balances and expenditures undistributed. These accumulated balances have been the result of expenditures which in some instances pertain to transactions as far back as the year 1883, and being of doubtful value your directors deem it better that the accounts should now show these various items absolutely charged off, so that the books may at least be a correct statement of the present condition of the company. Whatever may be realised from the sums now charged off will go into future accounts, but the present action will clear the books of questionable balances, and enable shareholders better to understand the real situation of the company.

"Besides being burdened with charges that properly belonged in the accounts of preceding years, the operating expenses for the current year have been largely increased because of lack of facilities to properly handle the freight business which has passed over our lines, so that business which might have proved a considerable source of revenue has not given the results that, under ordinary circumstances, might have been expected. With contemplated additions to the equipment and to the freight terminals, especially in view of the fact that the gross earnings are constantly increasing, and that the rates received for the transportation of freight are found by other railroads to be remunerative, it is the belief of your directors that, with wise economy and careful superintendence, the net earnings of the road may be materially increased. Of the increased fixed charges, $64,958 is on account of the rental of the Providence & Springfield Railroad and of the Woonsocket & Pascoag Railroad, from the operation of which we cannot as yet expect full returns. The interest paid on freight car equipment notes increased $33,238; but the larger part of this increase served to reduce the balance paid by this company for freight car service, as the cars covered by the obligations upon which the interest is paid operate mostly over foreign roads, and earn a very large proportion of the interest charges.

"There was expended during the year for improvements and additions to property accounts the sum of $334,224 of which amount $152,993 was on account of equipment purchased, and $181,230 was for additions and improvements to the property generally."

NEW YORK, NEW HAVEN AND HARTFORD RR.

Paying a regular dividend of 10 p.c. since its consolidation in 1872, this company ranks among the greatest financial successes of the States. It owns 141 miles of superior track and leased, at the close of the last fiscal year, 508 miles, since augmented by the mileage of the New York, Providence and Boston Railroad. (*q. v.*). As, in addition, $4,675,000 in shares have been issued recently to pay for four and double tracking and other improvements, while control of the Housatonic RR. (190 miles) was obtained in June, 1892, the position of the company now differs somewhat from that shown in the subjoined tables. The system connects New York with points in Connecticut, Rhode Island and Massachusetts, and has a good through connection with Boston. The extent of its business between 1887 and 1891 is shown by the following table:—

Year ending Sept. 30.	*Average mileage operated.*	*Passenger Traffic*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue.* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1887	265	249 1	1·66	4,125,883	150·0	1·95	2,928,001
1888	508	292·0	1·76	5,162,263	226·3	1·78	4,032,612
1889	508	304·6	1·79	5,480,642	225 9	1.82	4,109,067
*1890	508	296·3	1·62	3,843,379	191·3	1·78	3,465,782
†1891	508	341·4	1·69	5,780,306	255·2	1·79	4,673,630

* Nine months ending June 30.
† Year terminating " "

The subjoined statements relate to the company's revenue:—

	1891-92.	1890-91. $
Earnings—		
Passenger department	——	6,649,987
Freight department	——	4,673,630
Maintenance of way, etc.	——	1,611,255
Total earnings	11,913,701	11,323,617
Expenses—		
Maintenance of equipment	——	1,334,384
Conducting transportation	——	4,291,654
General	——	691,608
Total expenses	8,273,011	7,928,901

	1891-92. $	1890-91. $	1889-90. $	1888-89. $
Net earnings	3,640,690	3,394,715	3,369,393	3,004 548
Other income	189,238	188,365	149,383	142,383
Total	3,829 928	3,583,080	3,518,776	3,146,931
Interest	80,000	80,000	80,000	80,000
Rentals	981,685	984,060	982,888	906,033
Taxes	605,962	616,923	552,878	484,254
Dividends (10 p.c.)	2,103,750	1,865,000	1,705,000	1,550,000
Total	3,771,397	3,545,983	3,320,766	3,020,287
Surplus	58,531	37,097	198,010	126,644

*) Figures for 1891-92 are taken from a preliminary report.

GENERAL BALANCE SHEET, JUNE 30.

	1891.	1880.
Assets—	$	$
Construction account	15,922,014	14,836,533
Equipment	3,879,485	3,461,573
Real estate	871,026	871,028
Docks and wharves	128,688	128,688
New construction	4,710,302	3,039,835
Cash	719,774	271,255
Due from agents	99,118	56.063
Due from companies and individuals	281,908	305,371
Advances to Harlem Riv' & Portchester RR.	24,530	24,530
Bills receivable	300	300
Stocks and bonds owned	2,239,277	2,328,769
Materials and supplies on hand	794,190	627,992
Total assets	29,670,612	25,951,935
Liabilities—		
Capital stock	18,700,000	18,600,000
Bonds	2,000,000	2,000,000
Advances account of new stock	876,505	——
Bills payable	3,140,000	860,000
Interest unpaid (accrued not due)	6,667	6,667
Rentals unpaid (accrued not due)	192,284	139,945
Rentals unpaid	45,524	53,024
Dividends	3,669	3,909
Vouchers and accounts	845,500	581,863
Profit and loss	3,860,484	3,706,527
Total liabilities	29,670,612	25,951,935

THE NEW YORK PROVIDENCE AND BOSTON RR.

This railway was on April 1st, 1892, leased for sixty years to the New York, New Haven & Hartford, which assumes all liabilities and guarantees the same dividends on the stock as are paid on its own; but after the New Haven road has offered its own stock in exchange for Providence stock, share for share, the rental is to be 6 p.c. per annum.

As the company has paid 10 p.c. on its common stock, the terms of its lease to the N. Y., N. H. & H. imply no sacrifice on either side. The company owns 80 miles and leases 56 miles of railway, besides controlling the Stonington Line of steamships (New York—Boston) through ownership. Its capital consists of $5,000,000 common stock and $2,300,000 bonds.

The following figures are taken from recent annual reports:—

	1890-91.	1889-90.	1888-89.	1887-88.
Miles operated	136	136	140	86
Earnings—	$	$	$	$
Passenger	1,502,087	1,444,501	1,318,992	698,843
Freight	1,432,225	1,479,881	1,349,707	525,738
Mail, express, etc	157,009	164,222	167,725	78,588
Total gross earnings	3,091,321	3,088,604	2,836,424	1,303,169
Expenses, includ'ng extraordinary, rentals and taxes	2,585,515	2,612,302	2,297,139	1,004,351
Net earnings	505,806	476,302	539,285	298,818

INCOME ACCOUNT.

	1890-91.	1889-90.	1888-89	1887-83.
	$	$	$	$
Net income*	601,627	572,122	635,106	383,152
Disbursements—				
Interest balance	94,392	32,186	101,661	82,814
Dividends	500,000	450,000	375,000	300,000
Total disbursements	524,322	482 186	476,661	382,814
Balance surplus	7,235	89,936	158,445	338

* Including amounts received from investments.

OLD COLONY RAILROAD.

This system embraces 576 miles, for the most part situated in Massachusetts and chiefly connecting Boston with other points in the "old colony"; in consequence it has a strongly developed local business, and passenger traffic yields the major portion of its revenue. The company owns 482 miles, the remainder being leased but virtually owned, and several steamship companies are controlled. The greater part of the company's capital consists of shares, of which $12,767,100 are issued; since 1883 7 p.c. per annum has been paid on common stock. The funded debt includes many debentures, and amounts to $11,975,400; annual interest on it aggregates $635,450. Below are tabular statements showing principal features of revenue, etc., and traffic.

INCOME ACCOUNT.

	1891-92.	1890-91.	1889-90.	1888-89.	1887-88.
Receipts—	$	$	$	$	$
Gross earnings	8,744,812	8,376,452	8,020,295	7,726,312	6,322,682
Net earnings	2,050,426	1,906,177	2,059,855	1,995,036	1,684,961
Other receipts	159,807	239,054	135,723	132,766	94,090
Total income	2,210,283	1,145,231	2,195,578	2,127,802	1,779,051
Disbursements—	$	$	$	$	$
Rentals paid	582,908	563,373	584,605	560,985	265,559
Interest	716,949	696,213	658,675	672,133	636,668
Dividends (7 p.c.)	827,611	872,690	844,683	830,655	802,763
Improvement account	—	12,955	107,615	64,019	73,361
Total disbursements	2,087,763	2,152,231	2,195,578	2,127,802	1,779,051

Years ending June 30.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1887	476	165·3	1.50	2,572,567	68·8	1.90	1,995,924
1888	521	190·9	1.82	3,530,875	87·5	2.96	2,416,566
1889	563	237·1	1.86	4,408,078	99·6	2.88	2,867,112
1890	563	249·4	1.82	4,541,061	112·9	2.66	2,989,412
1891	569	263·6	1.82	4,801,027	114·9	2.63	3,024,799
1892	569	284·0	—	5,099,128	114·1	—	3,163,113

THE CONCORD AND MONTREAL RR.

What the "Old Colony road," with which it connects at North Aston, is to Massachusetts, the Concord and Montreal is to New Hampshire. The system embraces 425 miles, the greater part of which is owned. The capital stock ($4,800,000) is divided into Classes I., II., III., and IV., of which the three first ($1,800,000) are 6 p.c. preferred the remainder, common. In 1891 gross earnings amounted to $1,471,698; net earnings, $665,052; and after an expenditure of over $80,000 on betterments there remained a surplus of $5,444.

PART V.

THE CENTRAL GROUP.

CHAPTER XXII.

RAILWAYS IN THE CENTRAL STATES.

The railways composing the central group lie between Buffalo, the Lakes, Chicago, St. Louis, and the Ohio River, and therefore chiefly in the States of Ohio, Indiana, and Michigan, although some of them are situated in adjacent portions of Illinois, Pennsylvania and New York. They are either local lines or parts of the great direct routes between Chicago, St. Louis and the seaboard.

The field of operations of these companies has an area of 136,000 square miles and a population of (1890) nearly eight millions. Unlike the Eastern States it possesses no great variety of geological features, and the greater part of its surface consists of flat prairie, or is gently undulating; almost everywhere, however, it is fertile, well irrigated, and eminently fit for agriculture, while its substrata frequently contain valuable mineral deposits, natural gas and petroleum. The result of these endowments is that industries vie in importance with agriculture. Ohio's manufactures represent an annual value of (1890) $348,000,000, and her agricultural produce is worth $156,000,000; in Indiana the figures are $148,000,000 for farm produce and $130,000,000 for manufactures; in Michigan $91,000,000 and $150,000,000 respectively. Manufactures chiefly consist of machinery and hardware, but are rapidly increasing in extent and variety, since the requirements of the West grow at a rapid pace while the comparative proximity to the Mississippi region which, as is well known, is a vast consumer of miscellaneous merchandise, gives this section a decided advantage over the East. Agriculture consists partly of truck-farming, but wheat and corn are still produced in vast quantities despite the keen competition of the cheaper lands situated further West.

Ohio is principally noted, perhaps, for its petroleum, the production of which has risen from 650,000 barrels in 1885 to 5,000,000 in 1890. Owing to a wonderful system of pipe lines, however, the oil is no longer transported chiefly by railways, although the latter still carry considerable quantities of that luminant, as witness the vast number of tank wagons to be met with on the Ohio railways. The petroleum industry has various centres, some of them, like Oil City, being situated in Pennsylvania; but Cleveland is its real focus, and no doubt this town owes its greatness chiefly to the Standard Oil Company and its refineries. It lies on Lake Erie and has a fine harbour, built at great cost, where lumber from the West arrives in large quantities, while coals are sent in return; in addition the town, with a population of (1890) 261,000, has great iron works of all descriptions which draw their raw material from the mines of the surrounding country. Cincinnati, on the Ohio, and situated in the southern portion of the State, is still more important than Cleveland, and is the seat of numerous small industries; the population now exceeds 300,000, and the principal manufactures consist of safes, beer, leather and hardware. Columbus, in the centre of the State, (pop. 90,000) and Toledo (pop. 81,000) on the western extremity of Lake Erie, are growing and prosperous towns, and the population of Dayton, Springfield, Acron, Canton, and other young and vigourous cities increases year by year.

In Indiana industries preponderate less than in Ohio, and its population is considerably less dense in proportion to mileage. Indianapolis, situated in the centre of the State, has a population of 110,000; Evansville, Terre Haute, and Fort Wayne number between thirty and fifty thousand inhabitants. The State contains more agricultural labourers than people employed in mines and mills, but as there are some 7,000 square miles of coal fields, industries undoubtedly have a great future. Woollens, glass, furniture and agricultural implements are the principal manufactures: while cereals, notably wheat and corn, constitute the chief agricultural products.

Michigan is still more agricultural, but whereas the extensive forests of Ohio and Indiana have been entirely converted into farms, large tracts of Michigan woodlands still await the saw. Detroit is the principal city of the State, and has a population of 210,000; Lansing, Grand Rapids, Saginaw, Bay City, etc., are as yet merely centres of agricultural districts, although some of them are beginning to display industrial activity. Minerals are plentiful, especially in the peninsula between Lakes Superior and Michigan; but this part being generally classed with the Northwest, we need take no account of it at present. The principal product of the State is lumber, of which, a statistician says, Michigan "has produced enough to put a sidewalk sixty feet broad and three inches thick round the equator." Rails are frequently laid as the cutting of the giants of the forest progresses, the track being completed, as it were, from stump to stump.

Table showing Area, Population and Assessed Valuation of Ohio, Indiana and Michigan (1890).

State.	*Area (Square Miles.)*	*Population.*	*Assessed Valuation.*
			$
Ohio	41,060	3,672,000	1,778,100,000
Indiana	36,350	2,192,000	846,700,000
Michigan..........	58,915	2,093,000	927,500,000
Totals............	136,325	7,957,000	3,542,300,000

Statistics relating to Ohio, Indiana and Michigan in comparison with the United States (1890.)

	Ohio, Indiana and Michigan.	*United States.*
Area (sq. Miles)	136,325	3,602,000
Population	7,937,000	62,622,000
Assessed Valuation	$3,542,300,000	$24,294,600,000
Miles of Railroad	21,199	163,420
Capital of RR. Companies	$1,450,000,000*	$9,745,000,000
Earnings of „ „	$165,000,000*	$1,068,000,000
Passengers carried one mile	2,200,000,000*	12,521,000,000
Tons of freight „ „	19,000,000,000*	79,193,000,000

*) = Estimated.

It goes without saying that States to which such considerable agricultural and industrial importance attaches are well provided with railways. The various trunk lines alone operate a network as dense as that of most parts of Europe, and reaching from one end of the region to the other; and in addition there are many lines of purely local importance. The Central States, though of no mean significance as producers of cereals, no longer provide the major part of the huge quantities of corn, wheat, barley, oats, etc., grown in the United States; the Northwest and Southwest are now "the country that feeds the world," and Chicago, St. Louis, St. Paul, Omaha, and Kansas have become the great storehouses where the millions of bushels of grain are collected and whence they are distributed; and it is to connect these towns, notably Chicago and St. Louis with the seaboard, that the four great highways of commerce between East and West were extended beyond the Central States. At the same time, however, the production of the rich farm lands between the Ohio, the Mississippi and the Lakes is of such moment that the through routes carefully cultivate local traffic; indeed, the Northwest and Southwest were little else than a wilderness when the trunk lines were projected, and their original aim was to reach that which then was the West, but now constitutes the Central States. Formerly the whole of this section subsisted entirely on agriculture, but the ever-increasing industrial activity and the mineral wealth gradually provided a traffic which was worth cultivating, and hence the trunk lines saw the scope of their work expand and its importance—notably that of their local traffic—increase. As far as the Erie and Baltimore and Ohio railroads are concerned the change was not very pronounced, these being still principally through lines, although both cater for the local traffic south-east of Cleveland. The Pennsylvania and the Vanderbilt lines, however, make local business a greater feature than even through traffic. The four Vanderbilt roads reach every important point in Ohio, Indiana and Michigan, and the Pennsylvania does the same, Detroit being the only city of importance which is not touched by the latter. These two systems account for more than one-half of the mileage of all railways in the three States, the Vanderbilt lines being almost 6,000 miles long and the Pennsylvania nearly 3,000.

The four systems controlled by the Vanderbilt interest naturally occupy the most prominent position. The Lake Shore has scarcely a superior among American railways, the Michigan Central is not far behind; the "Big Four," though in its present form but two years old, is one of the most important systems, and even the "Nickel Plate," despite the fact that it is only a through route between Chicago and Buffalo, is a factor in transportation business. The Pennsylvania lines are second in importance; the Pittsburg, Fort Wayne and Chicago is almost as good as the Lake Shore, and the Pittsburg, Cincinnati, Chicago and St. Louis not far inferior, while the Grand Rapids and Indiana is also a worthy member of the greatest American system. The Baltimore and Ohio, having recently recovered its former St. Louis connection, the Ohio and Mississippi, comes next with more than 1,500 miles, and the Erie follows with 860, so that out of some 21,000 miles of railroad to be found in this section upwards of 11,000 miles are operated by the trunk lines.

Next to the central parts of the trunk lines there are other railways to which considerable importance attaches. The Toledo, St. Louis and Kansas City, the Chicago and Grand Trunk, the Wabash, the Lake Erie and Western, and the Toledo, Peoria and Western all compete for through traffic between St. Louis, Chicago, Peoria, or other points where Western freights are collected and the East, and in addition to all these lines following the principal direction of trade and receiving their share of through traffic between the West and the seaboard, there are a few running from North to South, and a number of purely local importance. Of the former the Cincinnati, Hamilton and Dayton, the Wheeling and Lake Erie, the Evansville and Terre Haute, and the Louisville, New Albany and Chicago are the more prominent; of the latter a large number cluster around Cincinnati, Columbus, Cleveland, Pittsburg, Buffalo, Toledo, Detroit and Indianapolis, and the result of so many lines being crowded together within a comparatively small area is that an exceptionally keen competition has developed itself. Almost every important town has at least three or four direct connections with every other, and from all a great number of lines radiate. Indianapolis, for example, is the centre of fifteen converging lines, of which six belong to the "Big Four" and three to the Pennsylvania system. Cleveland has twelve railways, Columbus and Cincinnati ten, and Toledo fifteen. That under such circumstances competition must be exceedingly vigourous is evident, and the result is that rates are lower in this section than in any other, the average for 1890 being 0.79c. per ton-mile in the Central States against 0.82c. in the Eastern, where the next lowest tariffs prevail; at the same time, however, the earnings per mile of railway are better than anywhere else except in the East, and profits are satisfactory, the absence of steep gradients and the large percentage of local freights compensating for low rates. Earnings are not progressive, but remain as nearly as possible stationary.

The trunk lines in the Central States maintain a very high standard of perfection; others are inferior, although mostly in such condition as admits of economical working, while improvements are constantly being carried out. The group in its entirety may be said to be passing through that stage which most American railways are undeniably approaching — a stage midway between Western and Eastern railroad conditions, but constantly getting nearer the perfection of the latter. During the last few years technical improvements have, perhaps, nowhere been as pronounced as in the Central States.

One of the special features of transportation business in this region is the competition of water routes. Chicago is connected by Lake with Detroit, Toledo, Cleveland, Buffalo and other points; from Buffalo the Erie Canal runs to Albany, and the Hudson connects Albany with New York. There exists, therefore, an unbroken connection by water between Chicago and all the other Lake points and New York, and although it is necessary to re-load at Buffalo, freights can be moved very cheaply along this route.

This competition has for many years past been detrimental to the railways in this region, more particularly to those lines competing for through traffic with the coast, and even to-day bulky freights like grain, lumber and ores are forwarded by water in vast quantities. But, whereas it was not possible to economise much in water transportation, railways now move their freight at rates about 75 per cent. lower than the charges made twenty years ago, and as a result it is no longer the railways which complain of water competition, but the skippers who suffer from railroads. Nevertheless, the Lakes still exercise their influence, and it is chiefly to them that the low rates for through freight prevailing in this section must be attributed. Everywhere else in America transportation charges are almost exclusively fixed between equal bodies, *i.e.* by railways among themselves, and this in the long run prevents them from falling to an unprofitable level. But in this region there was competition between two unequal agencies, and, as in all analogous cases, the one which could make the lowest rates ruled the market and determined the amount to be charged. At one time rates became so bad that railways found it difficult to compete, but owing to the low level to which they succeeded in reducing the cost of transportation the tables were turned. Formerly the water route could compete even for freights which were carried by rail from inland points to Chicago to be sent from there to the seaboard, but now rates have reached so low a point that in many cases the all-rail tariff for inland points is lower than the rail-and-lake, and certainly than the rail-lake-rail rate; transportation in itself is cheaper on the Lake, but "terminal work," hitherto of very little moment, is now such an important factor that the possibility of economising in it enters into all freight calculations. A railway may not be able to carry wheat as cheaply from Chicago to Buffalo as a vessel, but it will carry a through grain train from Omaha to New York at a rate below the aggregate charge made by the railroad which carries it from Omaha to Chicago, the vessel which takes it to Buffalo, and the barge descending the Canal and the Hudson, and in addition the delivery is accelerated about three weeks, while the grain is delivered with less loss. Moreover, the water route is closed in winter, during which season the trunk lines carry more grain than in the autumn. As to the rates between Chicago and the seaboard, these were in 1890, per bushel of wheat: by Lake and canal 6.76c., by Lake and rail 8.52c., and by "all rail" 14.30c. This shows that the railways are at a considerable disadvantage, but this is largely counterbalanced by the greater despatch in transit, while the closure of navigation during the cold season terminates the competition in November, and the result is that a little over one-half of all cereals shipped East from Chicago goes by rail, as is shown by the subjoined compilation taken from the report for 1890 issued by the

Chicago Board of Trade. Although, owing to the fact that much wheat is shipped to Buffalo from other Lake ports while vast volumes go by all-rail routes from Western and Southwestern ports, this table does not afford an absolutely correct indication of the proportions alloted to railways and vessels respectively, it is of value in so far as it shows the distribution of the principal articles of bulky freight between the railways and the Lake on the one hand, and between the railways mutually on the other. Statistics of lumber movements have been added to those relating to the cereals.

Table showing shipments of Flour, Cereals and Lumber from Chicago East by routes (1890.)

	Flour, thsds. of Barrels.	*Wheat, thsds. of Bushels.*	*Corn, thsds. of Bushels.*	*Oats, thsds. of Bushels.*	*Total Cereals, thsds. of bushels,* *	*Lumber, million feet.*
Vanderbilt lines:						
"Big Four"	241	498	1,740	1,791	4,393	27,598
Michigan Central	85	314	3,764	4,226	8,924	11,115
Lake Shore	198	611	5,489	9,893	15,785	22,473
"Nickel Plate"	202	114	3,111	9,415	13,448	7,420
Pennsylvania lines:						
Fort Wayne route	526	159	3,060	2,939	8,312	23,061
Pitts. Cinc. Chi. & St. L.	132	429	1,635	2,792	5,414	82,205
Other lines:						
Baltimore & Ohio	329	173	3,277	1,957	5,723	11,474
Grand Trunk	133	151	5,164	5,243	11,090	13,287
Erie	167	379	2,698	10,212	16,957	20,823
Total railways	2,013	2,828	29,908	50,098	97,886	199,456
Shipped by Lake	1,757	6,965	57,255	18,522	89,770	926

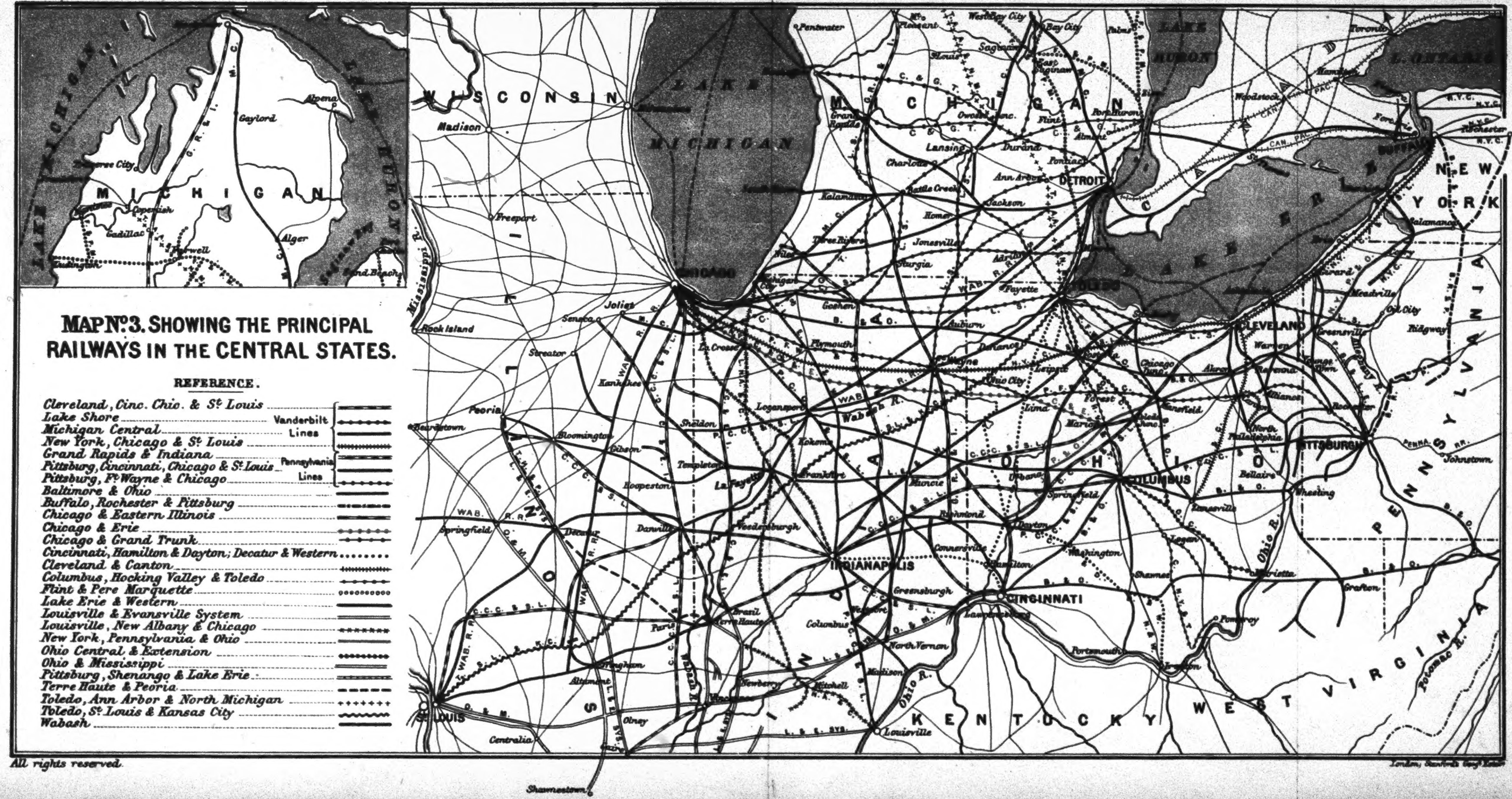
* Barrel of flour presumed to equal 4 bushels of wheat.

CHAPTER XXIII.

THE LAKE SHORE.

The Lake Shore and Michigan Southern Railway is a consolidation of three systems which were united in 1869 under the auspices of a group of capitalists presided over by Commodore Vanderbilt. The railway consists of what were formerly the Lake Shore RR., the Michigan Southern and Northern Indiana RR., (at one time famous in Wall Street as 'Old Southern') and the Buffalo and Erie RR., to which several leased lines have been added, so that the system owned, leased and operated to-day embraces 1,445 miles, consisting of the following parts:—

Owned:— Main line Chicago to Buffalo	540·5	miles
Branches of main line	318·6	„
Detroit, Monroe and Toledo RR.	62·3	„
Kalamazoo and White Pigeon RR.	36·5	„
Northern Central Michigan RR.	61·1	„
Detroit and Chicago RR.	67·6	„
Sturghis, Goshen & St. Louis RR.	35·8	„
Total owned	1122·4	„
Leased:—		
Kalamazoo, Allegan and Grand Rapids RR	58·4	„
Jamestown and Franklin RR.	50·9	„
Mahoning Coal RR.	50·3	„
Detroit, Hillsdale and Southwestern RR.	65·2	„
Fort Wayne and Jackson RR.	93·3	„
Total operated.	1445·2	„



MAP No. 3. SHOWING THE PRINCIPAL RAILWAYS IN THE CENTRAL STATES.

REFERENCE.
Cleveland, Cinc. Chic. & St. Louis
Lake Shore
Michigan Central
New York, Chicago & St. Louis
Vanderbilt Lines
Grand Rapids & Indiana
Pittsburg, Cincinnati, Chicago & St. Louis
Pittsburg, Ft. Wayne & Chicago
Pennsylvania Lines
Baltimore & Ohio
Buffalo, Rochester & Pittsburg
Chicago & Eastern Illinois
Chicago & Erie
Chicago & Grand Trunk
Cincinnati, Hamilton & Dayton; Decatur & Western
Cleveland & Canton
Columbus, Hocking Valley & Toledo
Flint & Pere Marquette
Lake Erie & Western
Louisville & Evansville System
Louisville, New Albany & Chicago
New York, Pennsylvania & Ohio
Ohio Central & Extension
Ohio & Mississippi
Pittsburg, Shenango & Lake Erie
Terre Haute & Peoria
Toledo, Ann Arbor & North Michigan
Toledo, St. Louis & Kansas City
Wabash
MICHIGAN
LAKE MICHIGAN
LAKE HURON
Gaylord
Alpena
Traverse City
Copemish
Cadillac
Farwell
Alger
Ludington
WISCONSIN
Madison
Milwaukee
LAKE MICHIGAN
MICHIGAN
LAKE HURON
L. ONTARIO
LAKE ERIE
CANADA
NEW YORK
PENNSYLVANIA
OHIO
INDIANA
ILLINOIS
KENTUCKY
WEST VIRGINIA
Chicago
Detroit
Toledo
Cleveland
Buffalo
Pittsburgh
Columbus
Cincinnati
Indianapolis
St. Louis
Louisville
Toronto
Rochester
Salamanca
Bay City
Saginaw
Flint
Port Huron
Lansing
Jackson
Battle Creek
Kalamazoo
Grand Rapids
Ann Arbor
Fort Wayne
Logansport
La Fayette
Kokomo
Muncie
Richmond
Dayton
Springfield
Peoria
Bloomington
Decatur
Springfield
Danville
Terre Haute
Joliet
Kankakee
Streator
Freeport
Rock Island
Mississippi R.
Ohio R.
Wabash R.
Potomac R.
Centralia
Cairo
Shawneetown
Evansville
Vincennes
New Albany
Madison
North Vernon
Greensburg
Hamilton
Portsmouth
Pomeroy
Marietta
Wheeling
Zanesville
Bellaire
Akron
Mansfield
Marion
Lima
Meadville
Oil City
Erie
Johnstown
Grafton
Elkhart
Goshen
Niles
Sturgis
Jonesville
Adrian
Three Rivers
Fayette
Defiance
Auburn
Plymouth
La Crosse
Sheldon
Gibson
Hoopeston
Templeton
Frankfort
Crawfordsville
Connersville
Washington
Logan
Shawnee
Columbus
Brazil
Paris
Effingham
Altamont
Olney
Mitchell
Newberry
Seneca
Beardstown
Kent
Warren
Alliance
Ravenna
Youngstown
Rochester
Greenville
Ridgway
Kingsville
New Philadelphia
Urbana
Forest
Chicago Junc.
Leipsic
Van Wert
Ohio City
Woodstock
Hamilton
C. & G. T.
N. Y. C.
CAN. PAC.
WAB. R. R.
Wabash R. R.
L. S.
M. C.
B. & O.
P. C. C. & St. L.
C. C. C. & St. L.
PENNA. R. R.
O. & M.
L. & E. SYS.
G. R. & I.
Pentwater
Mt. Pleasant
West Bay City
St. Louis
East Saginaw
Owosso Junc.
Durand
Pontiac
Charlotte
Homer
Muskegon
South Haven
Ludington
Fremont
Kingston

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London; Stanford's Geog.l Estab.t

Of these lines 365·4 miles have double track, and with the exception of a few insignificant sidings all are equipped with steel rails, which on the main lines are of very heavy weight. The property is in the most excellent condition, and owing to the almost entire absence of grades and curves the road, which is looked upon as one of the most perfect in the United States, can be worked at very low cost.

The Lake Shore, as is well-known, is one of the principal members of the Vanderbilt system, and connects the New York Central with Chicago. Whereas the Michigan Central, joining the same terminals and owned by the same interest, runs north of Lake Erie, the Lake Shore goes south of it, closely following the shore from Buffalo to Sandusky and then crossing the level prairie until it reaches Chicago. There are five direct routes between the western metropolis and Buffalo, namely the Grand Trunk, Michigan Central, Lake Shore, New York, Chicago and St. Louis ('Nickel Plate'), and Erie, and three of these are parts of the Vanderbilt system, the Lake Shore being by far the most important of all. Apart from its main line between Chicago and Buffalo, there are most important branches intersecting Southern Michigan, and an equally important feeder going from Ashtabula to Oil City, Pa., and Youngstown, O., traversing the oil, coke and iron region and connecting with Pittsburg.

When we have left the great city on Lake Michigan—where the Lake Shore has a fine terminus (which it shares with the Rock Island) in Van Buren-street, behind the General Post Office—in a train second only to the gorgeous Chicago Limited Express of the Pennsylvania, we first speed over the featureless but fertile prairie that surrounds Chicago in every direction. Leaving the stupendous aggregation of tracks to be found in the proximity of Chicago, and the ominous level crossings which are still in vogue even here, we glide along one of the very best roadbeds in the United States, provided with double track over the greater part of its length. There is very little of interest along the line until we reach Toledo, O., which has a very large Lake traffic, a dozen elevators, as many railway lines, natural gas, and prospering industries. The Lake Shore feeders insersecting the fertile grain lands of Southern Michigan here pour their traffic upon the main line, and the latter, soon after leaving the city, reaches the shore of Lake Erie. This lake, by the way, covers 10,000 square miles, although it is one of the smallest of the great inland seas the size of which seems to be as little realised in Europe as their commercial importance.

Sandusky, near the bay of that name, which is reached soon after the train has crossed over an immense trestle, also has a vast Lake traffic which among other railroads attracted the Erie, B. and O., and Big Four, and is the centre of one of the most prolific grape-growing districts of the States. A nine hours' ride from Chicago brings us to Cleveland, the most important city in Northern Ohio, which has a population of 250,000 and is the seat of various industries, iron and engineering being prominent among these. It lies upon a high bluff falling off precipitously to the water's edge, and on the banks of the Cuyahoga River, which cuts a deep ravine into the plateau; and this narrow valley is studded with manufactories and railways, and filled with an almost suffocating smoke, caused by the vast consumption of bituminous coals. The petroleum refinery business is the principal among the great industries of Cleveland, for it is here that the Standard Oil Company has its works, which, by means of pipe lines, draw the oil produced by 60,000 wells. This great company controls the petroleum trade of "All America" and of a great part of Europe besides. Its monopoly, which is one of the most oppressive in the United States, gave Rockefeller his famous wealth, but—like so many American fortunes—it has been built up by means of an anything but commendably character, and which have done more to demoralise rates and railway business generally than probably any other influence acting thereon.

By obtaining secret rates and rebates from the railways, (see p. 28) this company could mercilessly crush competition, and when it had achieved this aim and acquired absolute control of the great industry, it turned its back upon the railways by whose unjustifiable favours it acquired its strength, and became a dictator who never offered the slightest return for the undue favours bestowed upon it. The vast industries of Cleveland have created many other large fortunes, which again have transformed the 'Forest City' into one of the most charming towns of the United States; needless to say, they also attracted branch lines of every great railroad in this part of the country.

From Cleveland to Buffalo the line runs by the Lake though at some distance therefrom, and is paralleled by the N. Y., Chicago, and St. Louis, or Nickel Plate, now controlled by the Vanderbilts and co-operating with the West Shore, like the Lake Shore does with the N. Y. C. Every three or four stations we meet some railway coming to the Lake, and at Ashtabula the company's branch to the oil and coke region leaves the main line. This branch goes to Oil City and Youngstown, connecting at the latter point with Pittsburg by means of the Pittsburg and Erie RR. which is controlled by the Lake Shore through ownership of stock. Some 150 miles west of Ashtabula, on the main route, lies Dunkirk, the old Erie terminus, and within 14 hours we complete our journey to Buffalo, 540 miles from Chicago, in one of the best and fastest trains in America which has been selected by the Government to carry the transcontinental mails, in consequence of which the line, hitherto without the indispensable nickname, tries to gain for itself the distinction of being called the 'Fast Mail Route.'

No extraordinary events have been chronicled in the annals of the company since the consolidation of 1869, and its history is in fact nothing but a record of steady progress which by degrees has enhanced its importance and revolutionised the scope of its work. To what extent its surrounding conditions have changed may be inferred from the fact that since 1850 the population of what at present are the fifteen principal cities along its lines has increased from 130,000 to 2,130,000 [1] while the three States it traverses now have a population six times as large as they possessed two score years ago. When the Lake Shore originated, even the Central States were hardly more than a wilderness covered with woods, and of course the cultivation of the Northwest was not yet begun. To-day the States then included in 'the West' have become almost Eastern, and in towns hardly known thirty years ago thriving industries have sprung up, while every acre of available soil is utilised. The influence of such development upon local traffic alone would have sufficed to revolutionise the business of a railway; but in addition the settlement of the Northwest and Southwest lent to the Lake Shore the character of a through route second to none in importance, and by degrees has altered the nature of its operations.

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[1] The following table shows the increase of population of the fifteen principal towns along the Lake Shore since 1850.

	1890.	1880.	1870.	1860.	1850.
1. Chicago	1,098,576	503,342	298,977	112,172	29,936
2. Cleveland	261,546	160,142	92,829	43,417	17,034
3. Buffalo	254,457	155,137	117,714	81,129	42,261
4. Detroit	205,669	116,342	79,577	43,619	21 019
5. Toledo	82,652	50.143	31,584	13.768	3,829
6. Grand Rapids	64,147	32,015	16,507	8,084	2,686
7. Erie	39,093	27,730	19,646	9,419	5,858
8. Youngstown	33,199	15,431	8,075	2,759	Unknown
9. South Bend	21,786	13,279	7,206	3,808	1,652
10. Jackson	20,779	16,105	11,447	4,799	2,363
11. Sandusky	19,234	15,838	13,000	8,408	5,087
12. Kalamazoo	17,857	13,552	9,181	6,070	2,507
13. Lansing	12,630	8,319	5,241	3,047	1,229
14. Elkhart	11,370	6,953	3,265	1,439	1,035
15. Oil City	10,943	7,315	2,276	Unknown	Unknown

The subjoined statistics show the growth of the system, its revenue and its business for the last twenty-two years, and give details relating to rates, revenue, annual charges, dividends, etc.

Passenger Traffic.

Year.	*Number passengers carried.*	*Million passengers one mile.*	*Revenue.* $	*Receipt per passenger per mile.*	*Cost per passenger per mile.*	*Profit per passenger per mile.*
				Cent.	Cent.	Cent.
1870…………	2,065,440	160,5	4,192,960	2.612	1.708	.904
1871…………	2,046,428	142,6	4,006,724	2.808	1.939	.869
1872…………	2 212,754	162,3	4,218,543	2.599	1.814	.785
1873…………	2,845,163	179,3	4,569,730	2.542	1.878	.664
1874…………	3,096,263	173,2	4,249,022	2.452	1.678	.774
1875…………	3,170,234	164,9	3,922,798	2.378	1.824	.554
1876…………	3,119,923	175,5	3,664,148	2.090	1.515	.575
1877…………	2,742,295	138,1	3,203,200	2.319	1.647	.672
1878…………	2,746,032	133,7	3,057,393	2.287	1.276	1.012
1879…………	2,822,121	141,1	3,138,003	2.223	1.174	1.049
1880…………	3,313,485	176,1	3,761,008	2.135	1.086	1.049
1881…………	3,682,006	207,9	4,134,788	1.988	1.120	.868
1882…………	4,118,832	227,0	4,897,185	2.157	1.166	.991
1883…………	3,909,356	215,7	4,736,088	2.196	1.278	.918
1884…………	3,629,196	190,5	4,133,729	2.170	1.254	.916
1885…………	3,479,274	176 8	3,639,375	2.058	1.250	.808
1886…………	3,715,508	191,5	4,020,550	2.098	1.301	.797
1887…………	3,752,840	205,7	4,650,654	2.260	1.255	1.005
1888…………	4,051,704	210,1	4,810,148	2.289	1.301	.988
1889…………	4,413,592	222,5	5,062,490	2.284	1.314	.970
1890…………	5,019,595	225,2	5,060,023	2.246	1.492	.754
1891…………	5,809,295	246,9	5,376,509	2.177	1.404	.773

Freight Traffic.

Year.	*Tons.*	*Million tons one mile.*	*Revenue.* $	*Receipts per ton per mile.*	*Cost per ton per mile.*	*Profit per ton per mile.*
				Cent.	Cent.	Cent.
1870…………	2,978,725	574,0	8,746,126	1.504	.932	.572
1871…………	3,784,525	733,6	10,341,218	1 391	.913	.478
1872…………	4,443,092	924,8	12,824,862	1.374	.920	.454
1873…………	5,176,061	1,053,9	14,192,399	1 325	.946	.389
1874…………	5,221,287	999,3	11,918,350	1.180	.767	.413
1875…………	5,022,490	943,2	9,639,068	1 010	.737	.273
1876…………	5,635,167	1.133,8	9,405,629	.817	.561	.256
1877…………	5,513,398	1,080,0	9,476,608	.864	.573	.291
1878…………	6,098,445	1,340,4	10,048,952	.734	.474	.260
1879…………	7,541,294	1,733,4	11,288,261	.642	.398	.244
1880…………	8,350,336	1,851,1	14,077,294	.750	.435	.315
1881…………	9,164,506	2,021,7	12,659,967	.617	.414	.203
1882…………	9,195,538	1,892,8	12,022,577	.628	.413	.215
1883…………	8,478,605	1,689,5	12,480,094	.728	.452	.276
1834…………	7,365,698	1,410,5	9,356,816	.652	.426	.226
1885…………	8,023,093	1,602,5	9,031,417	.553	.399	.154
1886…………	8,305,507	1,592,0	10,329,625	.639	.410	.229
1887…………	9,326,852	1,843,7	12,547,923	.670	.418	.252
1888…………	9,069,857	1,799,1	11,629,174	.636	.430	.206
1889…………	10,020,599	1,859,0	12,545,810	.664	.479	.185
1890…………	11,531,298	2,156,6	13,759,123	.626	.458	.168
1891…………	12,019,016	2,168,7	13,896,639	.628	—	—

Earnings, Expenses, Revenue, Dividends, etc.

Year.	*Miles.*	*Gross earnings.*	*Operating expenses.*		*Net earnings.*	*Fixed charges.*	*Dividends per share of $100.*	
			Amount.	*Per cent.*			*Earned.*	*Paid.*
		$	$		$	$	$	$
1870....	1,013	13,509,236	8,368,821	61·95	5,140,415	1,828,807	9·60	8.00
1871....	1,074	14,898,449	9,779,806	65 64	5,118,643	2,121,164	8·37	8.00
1872....	1,136	17,699,935	11,839,526	66·90	5,860,409	2,201,459	8.55	8.00
1873....	1,177	19,414,509	13,746,598	70·90	5,667,911	2.654,560	6.10	4.00
1874....	1,177	17,146,131	11,152,371	65·04	5,993,760	3,008,193	6 04	3.25
1875....	1,177	14 434,199	10,531 501	72·96	3,902 698	2,810,294	2.20	2.00
1876....	1.177	13,949,177	9,574,836	68·64	4,374,341	2,759.989	3.26	3 25
1877....	1,177	13,505,159	8,963,966	66·37	4,541,193	2 775,657	3.57	2.00
1878....	1,177	13,979,766	8,486 601	60·70	5,493,165	2,718.792	5.61	4.00
1879....	1,177	15,271,492	8,934,524	58 50	6,336,968	2,754,988	7.24	6.50
1880....	1.177	18,749,461	10,418,105	55·56	8 331,356	2,750,374	11.28	8.00
1881....	1,177	17,971,391	11,278,429	62·76	6,692,962	2,725,375	8.02	8.00
1882....	1,274	18,225,639	11,057,807	60 67	7,167,832	3,027,000	8.37	8.00
1883....	1,340	18,513,656	11,001,854	59·43	7,511 802	3 498,806	8.11	8.00
1884....	1,340	14,843,584	9.133,522	61·53	5,710,062	3,720,670	4.02	5.00
1885....	1,340	14,133,506	9,287,537	65·71	4,845 969	3,867,456	1.96	....
1886....	1,340	15,859,455	9,731,622	61·36	6,127,833	3,712,978	4.88	2 00
1887....	1.340	18,710,963	11,029,798	58·95	7,681,165	3,649.645	8.15	4.00
1888....	1,342	18,029,627	11,310,371	62·73	6,719,256	3,608,391	6 29	5.00
1889....	1.410	19 487,197	12,847,452	65·93	6,639,745	3,423,469	6.50	5.00
1890....	1,445	20,865,760	14.220,481	68·15	6 645,279	3,344,735	6.67	6.00
1891....	1,145	21,431,336	14,632,675	68·27	6 978,711	3,359,251	6.87	6.00

The first two tables show the usual features of similar compilations—the disproportion between the increase in freight revenue and in business, the fall in rates, etc. Attention need be called to only two special circumstances; the first is the increase of nearly 300 per cent. in the freight tonnage, the second the remarkably low operating expenditure on this railway as far as freight is concerned. The average rate received in 1890 was only 0.626c., but the working cost was so phenomenally low (0.458c.) that a profit was made of 0.168c. per ton-mile, which must be considered exceptionally good, since it is almost exactly as great as on the New York Central, although the last-named company gets an average gross rate nearly 20 per cent. in excess of that received by the Lake Shore. There is to my knowledge but one railway in the United States which can move its freight cheaper than the Lake Shore, and that is the Norfolk and Western with its mineral traffic. But it would hardly be fair to compare the Lake

Shore with a mineral road[1] since its business is of a very varied nature, and hence it may claim the first place among the few railways which, on account of their technical perfection, make a good profit with very low rates. I have on several previous occasions called attention to the Lake Shore's perfection as a railway, the results of which are, for instance, shown by the fact that more cereals destined for the East leave Chicago by the Lake Shore than by any other railway, the Michigan Central being second (see p. 383). This is by no means incidental. Traffic naturally seeks the best routes, and the best routes make large profits because, firstly, they move freights cheaper, and secondly, because they get more of them on account of the greater despatch in transit: even in the so-called low freight business, where time of transit is no very important factor, freights seek those roads which carry them fastest. And one of the advantages of fast freight transit is that so much more can be done with the rolling stock. All this once more confirms the soundness of the maxim that the road to financial success lies through technical perfection. In a field where competition is exceptionally brisk we see the Lake Shore yielding immense profits whilst with the same or even better rates some of its competitors fail to make their business pay. The Lake Shore earns almost 7 per cent. on its total capital in spite of the considerable extent to which the latter is inflated.

Below are the usual statements relating to the company's finances; they cover five years.

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[1] Of the twelve million tons of freight carried last year by this road, 2·3 millions consisted of coal and iron and 1·1 of coke, 1·5 million tons merchandise 1·2 grain, 0·9 lumber, 0 9 stone, 0·4 manufactures, 0·6 iron manufactures, etc. On the Norfolk and Western seven-tenths of all freights are minerals.

	1891.	1890.	1889.	1888.	1887.
Earnings—	$	$	$	$	$
Passenger	5,376,509	5.060,023	5,082,480	4,810,148	4,650,653
Freight....................	13,893,639	13,759.122	12,545,810	11,629,174	12,547,923
Mail, express, etc..........	2,161,239	2,046,615	1,858,906	1,590,305	1,512,386
Total gross earnings. .	21,431,386	20,865,760	19,487,196	18,029,627	18,710,962
Expenses—					
Maintenance of way, etc...	3,205,746	3.162,158	2,775,565	2,500,494	2,079,084
Maintenance of equipment	2,681,248	2 827,341	2,473,982	1,460,753	1,995,012
Transp. and miscellaneous.	8,232,502	7,735,079	7,103,488	6,866,901	6,479,445
Taxes.......................	513,179	495 902	494,417	482,223	476,257
Total.................	14,632,675	14,220,481	12,847,452	11,310,371	11,029,798
Net earnings...............	6,798,711	6,645,279	6,639,744	6,719,256	7,681,164
P.c. op. expend. to earnings	68·27	68·15	65·93	62 73	58 95

INCOME ACCOUNT.

	1891.	1890.	1889.	1888.	1887.
Receipts—	$	$	$	$	$
Net earnings................	6,798,711	6,645,279	6,639,744	6,719,256	7,681,164
Interest, dividends, etc.....	455,623	498,759	382,541	219,892	129,999
Total income........	7,254,334	7,144,038	7,022,285	6,939,148	7,811,164
Disbursements—					
Rentals paid...............	557,154	564,419	507,645	517,418	449,313
Interest on debt...........	3,204,370	3,225,725	3,245,015	3,257,515	3,276,140
Divid. on guaranteed stock.	53,350	53,350	53,350	53,350	53,350
Total disbursements.	3,814,874	3,843,494	3,806,010	3,828,283	3,778,803
Surplus for dividend......	3,439,460	3,300,544	3,216,275	3,110,865	4,032,360
Dividends..................	2,967,990	2,967,990	2,473,325	2,473,325	1,978,660
Rate of dividends p c......	6	6	5	5	4
Surplus..............	471,470	332,554	742,950	637,540	2,053,700

General Balance at the close of each fiscal year.

	1891.	1890.	1889.	1888.	1887.
Assets—	$	$	$	$	$
Railroad, buildings, etc...	70,991,450	70,991,450	70,991.243	70,048,600	70,048.600
Equipment..................	17 300,000	17,300,000	17,300,000	17,300,000	17,300,000
Real estate and off. propty	351,007	351,008	351,007	351,736	352 638
Stocks owned, cost........	14,109,013	14,853,048	14,394,309	14,912,018	14 769 952
Bonds owned, cost.........	667,400	667,400	667,400	664,400	664,400
Advances	1,530,321	1,504,949	1,503,211	1,801,268	1,701,911
Materials, fuel, etc.........	879,118	663,349	577,435	634,545	604,594
Cash on hand.............	3,367,705	3,412,756	3,734,339	3.267.013	2 604.482
Uncollected earnings......	1,165,642	772,686	402,204	403,959	734,369
Total assets..........	110,361,656	110,516,645	109,921,238	109,383,539	108,780,946
Liabilities—					
Stock......................	50,000,000	50,000,000	50,000.000	50,000,000	50,000,000
Bonds......................	45,766,000	46,016,000	46,266,000	46.516,000	46,766.000
Dividends..................	1,758,002	2,005,335	1,510,670	1.510,670	1,016,005
Other liabilities...........	1,225,144	848,099	751 815	707,067	911,469
Profit and loss............	11,612,510	11,647,211	11,392,753	10 649,802	10,067,472
Total liabilities......	110,361,656	110,516,645	109,921.238	109,383,539	108,780,946

Among the assets figure $15,180,000 first and second preferred and common stock of the New York, Chicago and St. Louis railroad (which see) and other securities issued by subsidiary railways and 'despatch lines.' The company owns an interest in the Pacific Hotel, one of the leading establishments of Chicago, situated near its terminus, and holds a majority of stock ($2,503,000) of the Pittsburg & Lake Erie RR. which connects Youngstown with Pittsburg.

Since 1871 the share capital of the Lake Shore has remained unchanged. It amounts to $55,000,000 of which $533,500 is 10 p.c. guaranteed. For dividend see table on p. 381.

The bonded debt (including guaranteed debt of other companies) is specified as follows:—

Name and Character.	*Miles included in mortgage.*	*Issued.*	*Due.*	*Amount outstanding.*	*Rate of interest.*	*Annual interest.*
				$	p.c.	$
Lake Shore & Michigan Southern—consolidated first mortgage	864	1870	1900	15,070,000	7	1 052.870
Lake Shore Railway—divid. bonds	258	1869	1899	1,355,000	7	94,920
Cleveland, Painesville & Ashtabula—third mortage...	95	1867	1892	569,000	7	57,330
Buffalo & Erie—mortage..	88	1868	1898	2.756,000	7	194,880
Total amount outstanding of the first general mortgage of $25,000,000....	....	....	....	19,750,000		1,382,500
Lake Shore & Michigan Southern—consolidated second general mortgage...	864	1873	1903	24,692,000	7	1,728,440
Total funded debt—Lake Shore & Michigan Southern Railway Company proper.......				44,442,000		3,110,940

Debt of proprietary roads wholly owned by L. S. & M. S.

Name and Character.	*Miles included in mortgage.*	*Issued.*	*Due.*	*Amount outstanding.*	*Rate of interest.*	*Annual interest.*
				$	p. c.	$
Detroit, Monroe & Toledo—first mortgage, principal and interest guaranteed by L. S. & M. S..............	62	1876	1906	924,000	7	64,680
Kalamazoo & White Pigeon—first mortgage, principal and interest guaranteed by L. S. & M. S.............	37	1890	1940	400,000	5	20,000
Sturgis, Goshen & St. Louis—first mortgage, principal and interest guaranteed by L. S. & M. S...........	36	1889	1989	*401,000	3	12,030
				$1,725,000		$96,710

* Includes $79,000 Battle Creek & Sturgis first mortgage bond on road Sturgis to Findley, Mich.

Debt of leased roads, interest paid by L. S. & M. S. on account of rental.

Name and Character.	*Miles included in mortgage.*	*Issued.*	*Due.*	*Amount outstanding.*	*Rate of interest.*	*Annual Interest.*
				$	p. c.	$
Kalamazoo, Allegan & Grand Rapids—first mortgage guaranteed by L. S. & M. S.	58	1888	1938	840,000	5	42,000
Jamestown & Franklin—first mortgage (L. S. & M. S. owns $125,000)............	51	1863		298,000	7	20,860
Jamestown & Franklin—second mortgage (L. S. & M. S. owns $482,000).......	51	1869	'94	500,000	7	35,000
Mahoning Coal RR.—first mortgage guaranteed by L. S. & M. S.............	43	188	1934	1,500,000	5	75,000
				3,138,000		172,860

CHAPTER XXIV.

THE MICHIGAN CENTRAL.

The system of the Michigan Central and Canada Southern Railway Company has a total length of 1,609 miles, and consists of a main line running from Chicago to Suspension Bridge, Niagara, (near Buffalo) via Detroit and Jackson, and several branches in Michigan, the principal of which is the road to Mackinaw, a town communicating with St. Ignace by a ferry across the Straits of Mackinaw, which connect Lake Michigan with Lake Huron. St. Ignace is a terminus of the "Soo" line, and hence the Michigan Central receives direct Northwestern freights destined for the East, which it gives to its Vanderbilt connections with the seaboard. Mackinaw, by the way, is also a terminus of the Grand Rapids and Indiana RR., of the Pennsylvania system. Various lines in Southern Michigan tap that district, and Detroit is the company's traffic centre. The condition of all tracks, buildings and rolling stock is first-class, as befits a Vanderbilt road; the greater part of the main line is double tracked, and except on sidings all rails are of steel, those on the ma in lines weighing as much as 80lb. Terminal accommodation is excellent everywhere; in Buffalo the company uses the Vanderbilt stations, and in Chicago it shares the unequalled facilities of the Illinois Central (*q. v.*) which contemplates building a new station on the Lake front.

The Michigan Central system consists of the following parts:

Lines owned:			
Main line Kensington (near Chicago) to Detroit		270·0	miles.
Michigan Air-Line RR.: Jackson to South Bend	115·16		
Jackson, Lansing & Saginaw RR.: Jack'n to Mackinaw City	295·10		
Grand River Valley RR.: Rives Junction to Grand Rapids	83·79		
Kalamazoo & South Haven RR.: Kalamazoo to South Haven	39·50		
Joliet and Northern Indiana RR.: Lake to Joliet	45·00		
Saginaw Bay & Northwestern and branches	87·21		
Detroit and Bay City RR. and branches	151·42	—817·1	„
Lines operated:			
Illinois Central, Chicago entrance	14·0		
Canada Southern Ry.: Windsor, Can., to Suspension Bridge		226·1	„
Tol., Can. Sout'n & Det. Ry.: Springwells to Can. So. Juc.	55·87		
Toledo Belt Line	3·05		
Canada Southern Bridge: Slocum Junc. to Stony Island	3·66		
Michigan, Midland & Canada Ry.: Ridgeway to St. Clair	14·68		
Canada Southern Railway branches	101·33		
Sarnia, Chatham and Erie Ry.: Petrolia Junc. to Petrolia	7·00		
Erie and Niagara Ry.: Niagara to Old Fort Erie	30 60		
Leamington and St. Clair Ry.: Comber to Leamington	13·80		
Bay City and Battle Creek Ry.: West Bay City to Midland	18·00		
Battle Creek & Sturgis Ry.: Battle Creek to Findlay	33·80	—281·7	„
Total owned, leased and operated, Dec. 31, 1891		1609·2	„

The Michigan Central was chartered as early as 1846 and the present main line opened in 1852. The system has since been gradually extended, and the majority of the leased and operated lines are virtually owned, either by the company itself or by the Vanderbilt interest. In 1882 a traffic agreement was made with the Canada Southern (see below) in accordance with which the M. C. operates that line, paying one-third of the traffic revenue to the C. S. and retaining the remainder. There is a clause in the agreement whereby the Canada Southern's proportion of the revenue is decreased in the same ratio as its interest charges are diminished by the Michigan Central, and hence the Michigan Central now retains more than 66·7 per cent. of the Michigan Southern earnings.

The following tables show the principal features of the traffic for eight years, of the revenue for five years, and of the balance sheet for two years.

Passenger and Freight Movement on the Michigan Central.

Year ending Dec. 31.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate, — Cents.*	*Revenue, — $*	*Million tons carried one mile.*	*Rate, — Cents.*	*Revenue, — $*
1884........	1,507	164·9	2.10	3,464,560	1,179,2	0.65	7,620,887
1885........	1,514	155·6	2.03	3,162,342	1,232,5	0.56	6,906,207
1886........	1,516	171·3	2 14	3,670,826	1,157,4	0.68	7,938,572
1887........	1,537	182·4	2 29	4,184,237	1,340.6	0.69	9,309,967
1888........	1,537	185·2	2.26	4,188,963	1,279.4	0.69	8,883,446
1889........	1,540	187·6	2.30	4,327,091	1,203.1	0.72	8,736,963
1890........	1,609	195·9	2.27	4,459,074	1,339,9	0.69	9,311,290
1891........	1,609	202·3	2.24	4,548,995	1,368,2	0.72	9,876,307

Earnings and Expenses, 1887—1891.

	1891.	1890	1889.	1888.	1887.
Earnings—	$	$	$	$	$
Passenger................	4,548,995	4,459,074	4,327,091	4,188,963	4,184,237
Freight...................	9,876,307	9,311,290	8,736,963	8,883,446	9,309,967
Mail, express, etc.........	737,658	720,347	722 871	698,094	670,266
Total gross earnings..	15,162,960	14,490,711	13,786,925	13,770,523	14,164,490
Operating expenses—					
Maintenance of way, etc..	2,059,481	2,365,406	1,910,932	2,057,[illegible]	2,344,743
Maintenance of equipment	2,066,616	1,553,668	1.721,850	1,369,[illegible]	1,444.712
Transp. and miscellaneous	6,671,624	6,508,329	5,954,744	6,379,508	5,815,484
Taxes....................	309,849	304.351	307,623	280,848	270,307
Total operat. expenses	11,107,569	10,731,754	9,895,158	10,086,606	9,875.246
Net earnings.............	4,055,391	3,758,957	3.891,767	3,683,917	4,289,244
Percentage operating expenditure to earnings...	73·25	74·06	71·77	73·24	69·72

Revenue and Expenditure, 1887—1891.

	1891. $	1890. $	1889. $	1888. $	1887. $
Receipts—					
Net earnings.	4,055,391	3,758,957	3,891,767	3,683,917	4,289,244
Interest and dividends	58,628	57.493	46,666	55,276	52,718
Total income	4,114,019	3,816,450	3,938,433	3,739,193	4,341,962
Disbursements—					
Rentals paid	184,310	184,310	184,310	184,310	184,310
Interest on debt	2,254,977	2,270,022	2,328,216	2,336,782	2,351,619
Canada Southern share	446,776	355,633	407,444	339,161	540,870
Miscellaneous	——	134,723	7,731	15,938	32,513
Total	2,886,063	2,944,688	2,927,701	2,876,191	3,109,312
Surplus for dividends	1,227,956	871,762	1,010,732	863,002	1,232,650
Dividends	1,030,601	936,910	936,910	749,528	749,528
Rate of dividend, p c.	5½	5	5	4	4
Surplus	*197,355	def. 65,148	73,822	113,474	483,122

* The balance to credit of income account Dec. 31, 1891, was $2,296,747.

BALANCE SHEET, DECEMBER 31.

	1891. $	1890. $
Assets—		
Construction accounts	42,337,242	42,185,419
Investments	608,686	608,686
Fuel and supplies	1,139,432	1,091,208
Account receivable	566,694	439,866
Uncollected earnings	971,342	649,827
Cash	798,518	617,258
Total assets	46,421,914	45,592,264
Liabilities—		
Capital stock	18,738,204	18,738,204
Bonds	18,376,000	18,376,000
Accounts payable	1,461,474	902,787
Accrued interest	284,579	304,663
Dividends	655,837	562,146
Income account	6,905,820	6,708,464
Total liabilities	46,421,914	45,592,264

The capital of the Company consists of:—

Common stock	$18,738,204
First mortgage (formerly consol. mortg.)	10,000,000
Total	$28,738,204
Guaranteed issues of controlled companies	12,256,200

The dividends on the common shares have been as follows: 1890, 8 p.c.; 1881, 6½; 1882, nil; 1883, 5; 1884, 3; 1885 and 1886, nil; 1887, 1888 and 1889, 4; 1890, 5; 1891, 5 p.c.

It is not necessary to enter into details relating to any subsidiary company except the Canada Southern. This railway lies in Canadian territory, and was chartered in 1868 and opened in 1873. Soon after the completion of its lines the company defaulted, and the debt to the Government and others was readjusted under the auspices of the New York Central. It connects with the New York Central at Suspension Bridge, and with the Michigan Central at Windsor, Ontario, opposite Detroit. The company leases several branches, and its bonds are guaranteed for twenty years by the New York Central, the board of directors of which is almost exactly the same as that of the Canada Southern. The position of the company is sufficiently shown by the following extract from the annual reports for the last two years.

	1891. $	1890. $
Net earnings	446,776	355,633
Other revenue	5,908	6,054
Total net	452,684	361,687
Dividends	450,000	375,000
Rate of dividend p.c.	3	2½
Balance	sur. 2,684	def. 13,313
Surplus, January 1	215,733	229,046
Surplus, Dec. 31	218,417	215,733
Balance, surplus	218,417	215 733

BALANCE SHEET, DEC. 31.

	1891. $	1890. $
Assets—		
Construction and equipment	28,594,064	28,592,606
Stocks owned	3,053,350	2,993,588
First mort. bonds of other companies owned	2,899,372	2,899,372
Due from Michigan Central RR.	287,410	——
Cash and cash assets	206 308	244,773
Miscellaneous	14,014	76,579
Total	35,054,578	34,806,918
Liabilities—		
Capital stock	15,000,000	15,000,000
First mortgage bonds	13,923,601	13 923,600
Second mortgage bonds	5,850,000	5,349 000
Dividends	292,500	187,500
Due Michigan Central RR.	——	131 085
Income acount	218,417	215,733
Total	35,054,518	34,806,918

CHAPTER XXV.

THE NEW YORK, CHICAGO AND ST. LOUIS RR.

The charter for this railway, which is to the Lake Shore what the West Shore is to the New York Central, was obtained in 1881, and construction was pushed forward so energetically that it was opened in October, 1882. A fierce rate war resulted, leading to the acquisition of control by the Lake Shore and to sale in foreclosure and reorganisation in 1887. The company now has the following stock outstanding:—

First preferred	$5,000,000	**of which Lake Shore owns**	$2,503,000
Second "	11,000,000	" " "	6,275,000
Common	14,000,000	" " "	6,240,000
4 p.c. 1st Mortg. gold bonds	19,575,000		
	$49,575,000		

—The bonds are gradually redeemed out of a sinking fund, for which $100,000 are reserved if the net earnings exceed $900,000, and if the bonds can be bought below 102. If these two events do not coincide, the sinking fund requirements lapse for that year. The preferred stock is non-cumulative.

The company owns 512 miles and operates a total of 523; its line has no feeders, and runs from Buffalo to Chicago, absolutely paralleling the Lake Shore as far as Cleveland; from there it runs straight to Chicago without touching Toledo, going via Fort Wayne. The road is in fair to good condition, but of course inferior to the Lake Shore; at the same time want of rolling stock is so keenly felt that the necessity of hiring cars reduces the company's earnings to the extent of some $400,000. A thousand new cars are now being built, and will be paid for by instalments. The passenger traffic amounts to very little, hardly one-tenth of the earnings being derived from this source; freight increases, but is carried at such very low rates that only about 20 per cent. of the total earnings are net.

The following table shows the extent of business and its growth during the last four years:—

Year.	*Mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1888	512	16·5	1.83	303,195	866·3	.528	4,570,912
1889	512	20·3	1.76	358,462	874·3	.536	4,688,616
1890	512	27.4	1.57	429,170	1050·8	.508	5,341,577
1891	512	24 7	1.64	426,211	1052·5	.541	5,697,609

Earnings, Expenses, Revenue and Expenditure during the last four years were:—

	1891. $	1890.	1889. $	1888. $
Earnings—				
Passenger..................	425,211	429,170	358,462	303,195
Freight....................	5,697,609	5,341,577	4,688,616	4,570,912
Mail, express, etc..........	47,269	49,558	43,251	44,110
Total earnings............	6,171,089	5,820,306	5,090,329	4,918,217
Operating expenses and taxes..................	5,056,082	4,678,251	4,003,544	4,113,824
Net earnings..............	1,115,007	1,142,054	1,086,785	804,393

INCOME ACCOUNT.

	1891.	1890.	1889.	1888.
Revenue—	$	$	$	$
Net earnings	1,115,007	1,142,051	1,086,785	804,393
Other revenue	13,569	12,774	5,390	6,420
Total	1,128,576	1,154,828	1,092,175	810,813
Expenditure—				
Interest on bonds	780,420	784,570	791,680	778,240
Rental of terminals	90,551	87,685	81,139	81,416
Sinking fund	99,940	93,748	99,954	100,000
Dividend on 1st pref. stock	150,000	175,000	——	——
Total	1,120,911	1,141,003	972,773	959,656
Balance	sur. 7,665	sur. 13,825	sur. 119,402	def. 148,843

The Balance Sheets for the last two years show the position of the company to be as follows:—

	1891.	1890.
Assets—	$	$
Cost of road	46,077,341	46,239,203
Cost of equipment	3,616,721	3,616,721
Bonds owned	161,000	——
Materials and fuel	302,500	142,579
Cash	432,828	516,378
Due by station agents, etc	269,050	267,786
Due by other companies	503,416	580,778
Due by Post Office Department	6,454	6,587
Miscellaneous accounts	38,516	38,786
Total	51,427,824	51,406,768
Liabilities—		
First preferred stock	5,000,000	5,000,000
Second preferred stock	11,000,000	11,000,000
Common stock	14,000,000	14,000,000
Funded debt	19,575,000	19,681,000
Unpaid vouchers	578,784	617,506
Unpaid pay-rolls	223,438	202,298
Due companies and individuals	154,207	97,513
Interest due and not paid	11,500	11,220
Interest accrued, not due	194,310	195,370
Dividend on 1st pref. stock	150,000	175,000
Sinking fund account	393,643	293,702
Income account	146,942	153,217
Total	51,427,824	51,406,768

CHAPTER XXVI.

THE CLEVELAND, CINCINNATI, CHICAGO AND ST. LOUIS RAILWAY.

Presumably no other railway system in the Central States occupies such a prominent position in local traffic as the conglomeration of lines, generally known as the 'Big Four,' which forms the Vanderbilt connection with Cincinnati, Cairo, St. Louis, Peoria, and numerous other points. Indianapolis is the focus of the system, which embraces 2,233 miles of railway, and the junction of various lines the principal among which constitute direct through connections between St. Louis and Cleveland, Cincinnati and Cleveland, Cincinnati and Chicago, Cincinnati and St. Louis, etc.

The following is a summary of the lines operated by the company when the last report was issued.

Lines owned:—		
Cleveland to Columbus, O.	138	miles
Gallion, O., to Indianapolis	203	„
Delaware to Springfield.	50	„
Cincinnati to Lafayette and branch.	178	„
Indianapolis to Terre Haute	72	„
East St. Louis „ „ and branch	194	„
Total owned.	834	„
Railroads leased and practically owned:—		
* Cincinnati, Lafayette and Chicago.	56	„
† Cincinnati and Springfield.	48	„
* Cairo, Vincennes and Chicago, and branch	267	„
** Cincinnati, Sandusky and Cleveland, and branch.	170	„
* Columbus, Springfield and Cincinnati.	45	„
* White Water RR.	62	„
* Fairland, Franklin and Martensville	38	„
†† Columbus Hope and Greensburg	26	„
* Other lines	12	„
Total leased.	724	„
Total operated and earnings reported.	1,558	

Railroads operated, but earnings reported separa'ly:—

* Cincinnati, Wabash & Michigan . . .	205	250 miles.
†† Vernon, Greensburg & Rushville RR.	45	
Peoria and Eastern		350 "
Kainkakee & Seneca, with branch		44 "
Dayton & Union RR.		47 "
Entrance into Chicago over Illinois Central		56 "
		747 "
Total operated (roads owned jointly and trackage counted as one-half)		2,281 "

The 'Big Four' is a consolidation of the Cincinnati, Indianapolis, St. Louis and Chicago Ry. Co., the C. C. C. & I. Ry. Co., and the Indianapolis & St. Louis Railway Company, effected in July, 1890, in which year the St. Louis, Alton and Terre Haute Railroad's main line and branch was purchased. The reorganisation took place in the Vanderbilt interest, and almost the entire capitalisation consists either of securities of the old companies or substitutes therefor. $20,753,730, 4 p.c. gold bonds have been issued, $10,000,000 of which were paid for the St. Louis, Alton and Terre Haute RR., and there are $28,000,000 common stock and $10,000,000 5 p.c. non-cumulative preferred, the consent of which is necessary before any further issue of bonds can be made. Details of funded debt and first charges are given in the statement appended below.

---

* All shares owned.
‡ Majority of shares owned.
** Common shares owned.
† Majority of shares and all bonds owned.

Name of Road.	*Class of Bonds.*	*Issued.*	*Due.*	*Amount outstanding.*	*Rate of interest. per cent.*	*Annual interest and rentals.*
				$		$
C. & I. RR.	First Mortgage, 1862	1862	1892	294,000.00	7	20,580.00
C. & I. RR.	Second Mortgage, 1867.	1867	1892	689,000 00	7	48,230.00
I. C. & L. RR.	Mortgage of 1867	1867	1897	379,000.00	7	26,530.00
C. I. St. L. & C. Ry.	First Consolidated Mortgage	1880	1920	752,000.00	6	45,120.00
C. I. St. L. & C. Ry.	General First Mortgage	1886	1936	6,650,000.00	4	266,000.00
B. & I. RR.	First Mortgage	1864	1899	172,000 00	7	12,040.00
C. C. C. & I. Ry.	First Mortgage Sinking Fund	1869	1899	3,000,000 00	7	210,000 00
C. C. C. & I. Ry.	First Consolidated Mortgage.	1874	1914	4 065,000.00	7	284,550.00
*C. C. C. & I. Ry.	General Consolidated Mortgage	1884	1934	3,205,000 00	6	192,300.00
I. & St. L. RR.	First Mortgage	1869	1919	2,000,000.00	7	140,000 00
I. & St. L. Ry.	First Mortgage	1882	1912	500,000.00	6	30,000.00
*C. C. C. & St. L. Ry.	(C. V. & C. Ry. First Mortgage).	1890	1930	5,000,000.00	4	200,000.00
C. C. C. & St. L. Ry.	(Springfield and Cols. Dividends 4 p.c. Mortgage).	1890	1940	1,250,000 00	4	50,000.00
S. D. & C. RR.	First Mortgage	1851	1900	122,000.00	6	7,320.00
Cin., Sand., and Clev'd RR.	First Consolidated Mortgage.	1888	1928	2,483,000.00	5	124,150.00
C. & S. Ry.	First Mortgage	1871	1901	2,000,000.00	7	140,000.00
C. & S. Ry.	Second Mortgage	1872	1902	125,000 00	7	8,750.00
C. L. & C. RR.	First Mortgage	1871	1901	794,000.00	7	55,580.00
C. C. C. & St. L. Ry.	(White Water Valley Dividend Mortgage).	1890	1940	650,000 00	4	26,000.00
C. C. C. & St. L. Ry.	(St. Louis Dividend First Coll. Trust Mortg.).	1890	1990	10,000,000.00	4	400,000.00
*C. C. C. & St. L. Ry.	(C. W. & M. Dividend 4 p.c. Mortgage).	1891	1991	4,000,000.00	4	
C. C. C. & St. L. Ry.	Rentals	. .	. .	. . . . . .	. .	282,700.00
Total		. .	. .	48,130,000.00	. .	2,569,850.00
I. B. & W. Ry.	First Mortgage Preferred	1879	1900	1,000,000.00	7	70,000 00
O. I. & W. Ry.	First Mortgage Preferred	1888	1938	500,000 00	5	25,000.00
P. & E. Ry.	First Consolidated Mortgage.	1890	1940	8,103,000.00	4	324,120 00
P. & E. Ry.	Rentals	. .	. .	. . . . . .	. .	35,300.00
Total		. .	. .	9,603,000.00	. .	454,420.00

* Interest charges paid by C. W. & M. Ry. Co.

* = Quoted in London.

The system being a consolidation of numerous smaller lines, many of which were not in first class order, somewhat extensive betterments were necessary; at present, however, the entire property is in a satisfactory condition. Although of no heavy type, the rails, which are of steel, are in accordance with the requirements of the traffic; most roads are well graded and ballasted, and the additions made to rolling stock render the latter equal to all requirements. Terminal accommodations in Cincinnati have been extended, but some additions to the company's shops are needed. It is officially stated that further extensions of the system are not intended, although the purchase or lease of the 'Three I's' (Indiana, Illinois and Iowa RR.) has been spoken of. The connections of the road are excellent; agreements for through traffic with Louisville have been made with the Ohio and Mississippi, and since the latter is part of the Baltimore and Ohio system the 'Big Four' lines have become a St. Louis connection of the Chesapeake and Ohio; relations with this company are so amicable that the likelihood of its acquisition by the Vanderbilt interest has been frequently mentioned. The principal connection, however, is the Lake Shore, which the 'Big Four' meets at Cleveland, one of its best lines joining that city with Cincinnati and St. Louis. The direction of Southwestern trade is towards the Atlantic Coast, and hence it can cause no surprise that this company gives considerably more freight to the Lake Shore than it receives (862,000 against 282,000 tons), but on the other hand it receives more passengers than it gives, a fact presumably explained by the notorious circumstance that in connection with the unabating emigration to the West nearly all lines carry more passengers West than East. The freight business of this railway, like that of all roads in the Central section, is largely local, and has to be conducted against low rates.

Although the corporation is but two years old the financial results of its operations are such as to warrant the most satisfactory conclusions with regard to its success. Like all Vanderbilt properties, it conducts business upon sound and conservative principles; and with a moderate capitalisation it has from the outset been on a dividend-paying basis. A distribution of 4 p.c. was made on the common stock in 1890 and of 3 p.c. in 1891, the reduction being connected with short crops in Ohio and Indiana, strikes, and dearth of fuel. In January, 1892, $1^1/_2$ p.c. was paid.

Below are details relating to traffic, statements showing traffic earnings, revenue, expenditure and a copy of the balance sheets for the two years of the company's existence. During the last year over $1·4 millions were earned in excess of fixed charges.

Table showing details of Freight and Passenger Traffic on the Cleveland, Cincinnati, Chicago and St. Louis Railway for the two years ending June 30th, 1891.

Year.	Average mileage directly operated.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue, — $
1889–90	1,629	149·1	2.29	3,422,872	1,199 1	.694	8,318,865
1890–91	1,629	162·3	2.25	3,640,505	1,221.5	.683	8,337,130

Earnings and Expenses.

	1891.	1890.
Mileage directly operated	1,629	1,629
Earnings—	$	$
Passenger traffic	3,649,505	3,422,872
Freight „	8,337,130	8,318,865
Mail, express and trackage	901,981	897,408
Total	12,888,616	12,639,145
Expenses—		
Maintenance of way, etc.	1,591,128	1,510,596
Maintenance of equipment and engines	1,533,661	1,511,173
Transportation and general	5,601,975	5,176,297
Car and engine service	80,110	175,351
Total	8,806,874	8,373,418
Net earnings	4,081,742	4,265,727
Percentage of earnings to expenses	68 85	64·50

Revenue and Expenditure.

	1890-91. $	1889-90. $
Revenue—		
Net earnings	4,061.742	4 265,728
Rentals, interest, etc.	328,761	323.162
Total revenue	4,410,503	4,588,889
Expenditure—		
Interest	2.123,303	1,788,256
Rentals	476,187	936,585
Dividends*	1,318,322	1 320.000
Taxes	380,338	365,764
Miscellaneous	10,792	14,940
Total	4,308,942	4,425,545
Surplus	101,561	163,344

* 5 p.c. on preferred in both years, 4 p.c. on common in 1881-90, and 3 p.c. in 1890-91.

Comparative General Balance Sheet.

June 30th, 1890 and 1891.

ASSETS.	1891. $	1890. $
Construction and equipment	75,194,110	52,402,961
Big Four grain elevator	215,758	215.758
General supplies	562,653	604.481
Cinn. Laf. & Chic. RR. first mortgage bonds	326,000[2]	320,000
Cinn. Laf. & Chic. RR. second do.	840,000[2]	840,000
C. H. & G. RR. first do.	275,000[2]	275,000
Kankakee & Seneca RR. first do.	325,000[2]	325,000
V. G. & R. RR. first do.	450,000[2]	450,000
Cinn. & Spring. Ry. second do.	526,000	526,000
Peoria & East. Ry. first con. mort. do.	—	173,000
Clev. Cinn. Chic. & St. L. Ry. (C. W. & M. Ry. div.) mortgage bonds	2,706,000	—
Clev. Cinn. Chic. & St. L. Ry. (Spring. & Col. div.) first mortgage bonds	98,690	—
Stock owned in branch roads, etc.	886,348	831,552
Cinn. Wabash & Mich. Ry. payments on account of purchase.	2,762,265	440,000
Central Trust Co., trus. sink. fund under first mort. St. L. div.	256,000	—
Capital acct. of east freight lines, etc.	18,002	11.102
Special bond redemption fund	349,056	351.856
Plum-street depot improvement	—	13,092
Clark's Hill elevator	2,884	2,844
Sloane property, Sandusky	10,000	—
Peoria & East. Ry. loan account	235,981	—
Advances to branch lines	3,599,812	3,608,878
Cash in hands of treasurer	353,736	414,235
Cash in banks to pay coupons	430,527	327,389
Cash in banks to redeem bonds, etc.	15,045	4,571
Bills receivable	8,760	4,326
Accounts receivable, balances due from RR. companies and others	689,088	409,539
Station Agents	161,381	167,790
U. S. Govt. and P. O. Dept.	98,745	95,969
Total	91,396,843	62,815,343

(Continued next page.)

(Continued.)

LIABILITIES.

	1891. $	1890. $
Capital stock, common	27.247,305	20,500,000
Capital stock, preferred	10,000,000	10,000,000
Capital stock, C. S. & C. pref. & scrip	428,997[5]	—
C. & I. RR. first mortgage bonds	294,000	285,000
C. & I. RR. second mortgage bonds	689,000	707,000
I. C. & L. RR. funded coupon bonds	150	22,750
I. C. & L. RR. mort. bonds of 1867	379,000	379,000
C. I. St. L. & C. Ry. first consol. mortgage 6 p.c. bonds	753.000	760,000
C. I. St. L. & Ry. gen. first mortg. 4 p.c. bonds	6,823,000	6,835 000
R. & I. RR. first mortgage bonds	173,000	191,000
C. C. C. & I. Ry. first mort. sink. fund bonds	3,000,000	3.000,000
C. C. C. & I. Ry. first con mort. bonds	4,067,000	4,069 000
C. C. C. & I. Ry. gen. con. mort. bonds	3,205.000	3,205,000
I. & St. L. RR. first mortgage bonds	2,000 00	[illegible]0,000
I. & St. L. Ry. first mortgage bonds	500,0000	[illegible]0 000
C. C. C. & St. L. Ry. (C. V. & C. Ry) first mortgage bonds)	5,000,000	5,000,000
C. L. & C. RR. first mort. bonds	794,000[6]	—
C. & S. Ry. first mortgage bonds	2,000,000[7]	—
C. & S. Ry. second mortgage bonds	125,000[7]	—
C. C. C & S. L. Ry. (St. L. div.) first coll. trust mortgage bonds	10,000,000[8]	—
C. C. C. & St. L. Ry (W.W. Val. div. mortgage bonds	650,000[8]	—
C. C. C. & St. L. Ry. (C. W. & M. Ry. div.) mortgage bonds	4,000,000[8]	—
C. S. & C. RR. first con. mort. bonds	2,483,000[8]	—
S. D. & C RR. first mortgage bonds	123,000[8]	—
C. C. C. & St. L. (Sp. & Col. div.) first mortgage bonds	1,099.330[8]	—
I. C. & L. RR. equip. bonds unredeemed	500	500
I. & C. RR. bonds unredeemed	1,000	1,000
B. & I. RR. bonds unredeemed	1,000	1,000
Bills payable	2,177,944	2 343,425
Bills payable for land purchased, East St. Louis	—	16 500
Bills payable for Cairo transfer	110,000[9]	110,000
Mo. Car. & F. Co., new box cars	470,000[10]	410,000
Bills audited (incl. June pay rolls)	1,236,522	1,209,666
Accrued interest on bonds, not due	383,965	288,028
Coupons unpaid	431.472	327,390
Dividend unpaid	15,378	10,367
Balance to credit of income account	735,278	633,717
Total	91,396,843	62 815 343

2.—These bonds are deposited under the C. I. St. L. & I. 4 per cent. mortgage. 3.—See explanation in President's report. 5.—Assumed in purchase 6 and 7.—Heretofore these bonds, and the properties securing same, which have been acquired by this company, have not appeared on the balance sheet as assets or liabilities; the interest, however, on the bonds has been included in fixed charges. They are now made to appear in the construction account as assets and among the outstanding bond liabilities. 8.—See statement of transactions in President's report. 8.—Payable in February, 1892. 9.—Monthly payments extending over a period of 3½ years.

The last annual report issued says: "The financial condition of the company at the close of the fiscal year is satisfactory.

It owes $470,000 for the purchase of cars, which is payable in monthly instalments running through a period of three and a half years, $110,000 for land purchased in Cairo; for bills payable incurred in the purchase of the Cincinnati, Wabash and Michigan Railway, and the construction work of the year, $2,177,944.44. The company is also liable for $800,000 of the old debt of the Cincinnati, Wabash and Michigan Railway, subject to which it purchased that property, almost the entire amount of the last two items being on long time, due next spring and summer. The company has in its treasury a sufficient number of its first mortgage bonds which at their fair market value will pay this debt whenever the directors feel justified in selling the same. The amount due from the company on coupons unpaid is $431,472.49, for which it has in bank $430,527.25. It also owes for bills audited, including June pay rolls and bills, interest accrued but not due, and dividends unpaid $1,635,865.09; and it has in its treasury cash and current assets sufficient to pay this sum. So that for the coming year the directors will have to provide for the payment of the bills payable by sale of the securities in hand, and for such construction work as may be ordered. This latter sum, as previously stated, is estimated at $500,000.

"The fixed charges of the company for the coming year for interest and rentals will amount to about $2,500,000. The directors are gratified to call the stockholders' attention to the fact that owing to the settlement with the St. Louis, Alton and Terre Haute Co. and the refunding arrangements that have been carried on, the fixed charges of the company have been decreased, while the earning capacity has been increased, thus strengthening the company's financial position materially."

CHAPTER XXVII.

THE NEW YORK, PENNSYLVANIA AND OHIO RR.

This railroad connects Salamanca, N. Y., with Dayton, O., via Marion, O., and has several branches running into various districts adjacent to its northernmost portion, the most prominent of these being the Cleveland and Mahoning Valley RR., and the branch to Oil City, Pa. The lines are operated by the Erie, to which the entire property has been leased for many years. From Salamanca to Marion the main road is part and parcel of the Erie route to Chicago; in Dayton it meets the Cincinnati, Hamilton and Dayton for Cincinnati, and in the latter town it used to connect with the Ohio and Mississippi for St. Louis; but when this road became part of the Baltimore and Ohio RR. an agreement with the Vandalia Line was entered into according to which this became the St. Louis outlet of the Erie system. The connection with Cleveland over the Cleveland and Mahoning Valley is the most important of the branches. The following is a summary of the lines constituting the system:—

Lines owned:	**Main line, Salamanca to Dayton**	**388·0**	**mile**
	Branches: Oil City	**33.8**	„
	„ **Various**	**15.6**	„
	Total owned	**437 4**	„
Lines leased:	**Cleveland and Mahoning Valley**	**123·9**	„
	Westerman RR	**2·1**	„
	Sharon Railway	**13·3**	„
	Newcastle and Shenango Valley RR.	**16 7**	„
	Total leased	**159·0**	„
	Total operated	**596·5**	„

These railways traverse a gently undulating country, but as they connect no terminals of importance it is evident that their usefulness depends almost exclusively upon their intimate connection with the Erie system, with which they have been closely allied for nearly a quarter of a century.

The youth of this company, like that of the Erie, has been exceedingly adventurous; indeed, the policy of its first managers was fraught with frauds and follies.

A number of small corporations had been chartered about the year 1850 to construct railways in the region where the boundaries of the States of New York, Pennsylvania and Ohio meet, and the lines of several of these companies would together connect the Erie system with Cincinnati. Meantime the Ohio and Mississippi RR., running from Cincinnati to St. Louis, had been projected, and as it occurred to some that the aforesaid small lines might provide a most important link in through railway communication between St. Louis and New York, the various companies were induced to complete the connection and to establish the through route. However, before affairs had progressed so far, several of them were in difficulties; nevertheless, the junction with Cincinnati was established in 1852. Owing to the obstruction arising from the laws of several States, the amalgamation of the component parts could not be effected until 1865, when the Atlantic and Great Western Railroad Company acquired the charters and properties of the various companies then owning lines between Salamanca, on the Erie RR., and Dayton, O., 51 miles north of Cincinnati, as well as several branches penetrating into the oil and coal districts. An agreement was made with the Cincinnati, Hamilton and Dayton RR. which granted the use of its line from Dayton to Cincinnati against payment of trackage.

As has been indicated above, financial embarrassments have been frequent ever since the company was organised; and, as in the instance of the Erie, they arose mostly from dishonesty. The capital consisted of $30,000,000 common shares and $30,000,000 consolidated mortgage bonds, $16,000,000 of the latter being issued in 1866 to retire bonds of the former small companies, while the remainder was placed in London at 80. A year after these bonds had been offered to the public the company defaulted in respect of the interest due upon them, and this caused so much a surprise that an Anglo-Dutch committee of investigation was formed, delegates of which inspected the line and reported that it was in a terrible condition. Several plans of reorganisation were proposed, but owing to dissent among the bondholders none of the various suggestions were carried out, and moreover Mr. James McHenry, president of the company and afterwards its financial agent in London, thwarted the committee. Owning a majority of stock, he remained in control, although this was of very little use to him, the receiver, General Potter, who was appointed in April, 1867, supporting the London committee. To alter this McHenry endeavoured to get the company out of the hands of a receiver, but lacking the money required for this purpose he had to resort to the infamous 'deal' with the Erie, which in 1868 leased the Atlantic and Great Western at a rental much in excess of its value. This lease was afterwards declared illegal, and proved disastrous for McHenry because he was ousted by Gould, then at the head of the Erie, who became receiver of the company. McHenry then decided to join the side of the English committee, from which the Dutch had meanwhile dissented, and with his support a reorganisation was brought about in 1869. But this reorganisation by no means terminated the embarrassments of the company, which, during the eleven years following, broke the record of defaults and reorganisations. Another receiver was appointed in April of the same year, (1869) and in 1871 there was again a lease to the Erie; in 1871 a sale in foreclosure occurred, and 1874 brought a third lease to the Erie again closely followed by a receivership. In 1880 another sale in foreclosure took place, leading to a purchase by reorganisation trustees who changed the name of the Corporation into New York, Pennsylvania and Ohio RR. Company. The capitalisation was altered in such manner that the small net revenue would be easily divisible, while non-payment of interest would not again lead to the appointment of a receiver; this was, of course, effected by withholding foreclosure rights from bondholders. $8,000,000 prior lien bonds were issued, bearing 6 per cent. interest and having foreclosure rights, and further the old outstanding securities were converted into first, second and third mortgage bonds, while common and preferred stock was also created. None of the bonds except the prior lien have foreclosure rights, and all receive interest only when earned; but interest on the first mortgage bonds is cumulative, while that on the second and third mortgage bonds is not. Holders of first mortgage bonds receive 'deferred warrants,' convertible into bonds, for that portion of the interest which is not paid in cash, and of these warrants $16,764,608 are now outstanding; in 1895 they can be exchanged into bonds in multiples of $1,000. The shares are held in trust, and until full interest is paid on the third mortgage bonds their voting power is concentrated in the hands of five voting trustees, three of whom are chosen by the first mortgage holders. As until now it has been impossible even to pay anything like full cash interest on the first mortgage bonds, it is plain that these voting trustees will remain in control for many years to come; indeed, there is next to no chance of their ever being abolished. Before that can happen the company must have a net available income some $6,000,000 in excess of its present revenue.

The funded debt and share capital is as follows:—

		Interest.	*Redeemable.*
$8,000,000	Prior lien gold bonds.	6 p.c.	1895
44,447,000	First mortgage gold bonds	7 p.c.	1905
14,500,000	Second „ „ „	5 p.c.	1910
30,000,000	Third „ „ „	5 p.c.	1915
13,764,608	Deferred warrants, convertible into first mortgage bonds.		
34,999,350	Common stock.		
10,000,000	Preferred „		
$155,710,958			

In addition to this huge amount of stock, about $2,000,000 equipment trust bonds are issued, which are gradually redeemed by a sinking fund into which the company annually pays 5 p.c.

The relations between this company and the lessee have never been as cordial as is usual in similar cases, and this has been so mainly because the requirements of the one were frequently irreconcilable with those of the other. Formerly the New York, Pennsylvania and Ohio was leased on terms directly detrimental to the Erie, and later leases have in this respect differed little from the contract entered into by Mr. McHenry, although several alterations have been effected. The first of these consisted of an amendment agreed upon in 1887 which changed the rental in such manner that instead of the lessee being obliged to pay 32 per cent. of the gross earnings up to $6,000,000 and 50 per cent. of all excess over that amount up to $7,200,000, and when over $7,200,000 the percentage of rental to be 35 per cent., the lessee was called upon to pay 32 per cent. of the gross earnings up to $6,000,000 and for each $100,000 or fraction thereof over that amount, an *additional* one-tenth per cent. of the whole gross earnings, until they reach $7,250,000; when that amount is exceeded the rental will be 33¹/₃ per cent. This alteration took effect on the 1st of April, 1887, but proved unsatisfactory because the more traffic the Erie gave to the N. Y., Pa., and O. the higher rental it had to pay, and in consequence there existed an inducement for the Erie to keep the earnings of the other company as closely to $6,000,000 as was compatible with its own interest. It was evident that the Erie should be encouraged to swell the business of the leased road, and in consequence another modification was made in 1890 stipulating that the rental should decrease pro rata—instead of increasing—after $6,000,000 had been earned. The rate of reduction is one-tenth per cent. for an increase of each $100,000 in gross earnings above $6,000,000 annually until the rental is reduced to 28 per cent. of gross earnings. The New York, Pennsylvania, and Ohio traffic earnings for the year ending 30th September, 1891, were in round figures $7,100,000. The nominal difference in the rental of the New York, Pennsylvania, and Ohio at those earnings between the old and the new terms amounts to $78,100, but there can be little doubt that this loss is abundantly made up for indirectly because the Erie gives more freight. Another modification of the lease is the agreement by the New York, Pennsylvania, and Ohio to furnish the Erie with two locomotives and 500 coal cars, and further to supply 500 additional coal cars should the annual earnings reach $6,500,000; 200 more when earnings reach $7,000,000, and 500 more for each additional $500,000 of earnings annually.

During the year ending September, 1891, the New York Pennsylvania and Ohio Railroad Company had under the existing arrangements a net revenue from traffic amounting to $2,198,616, this sum being the share paid to it by the Erie, and 30·9 per cent. of its gross traffic revenue.[1] There can be no doubt that this proportion is more favourable than it would be if the company operated its own lines; the deficient condition of roads and equipment render it doubtful whether the property could be operated at 77 or 78 per cent. of its gross revenue. This implies that the lease in its present form is favourable to the lessor, a fact further affirmed by comparisons with the performance of other roads in the same section. The Buffalo, Rochester and Pittsburg RR. for example, which in many respects can be compared with the New York, Pennsylvania and Ohio RR., earns less per mile than this company, and although it is in superior condition, only 25 p.c. of its earnings are net profit. It may therefore be said that both the connection with the Erie in itself and the stipulations under which it takes place are favourable to the N. Y., Pa., & O., and it is certain that if the company operated its lines on its own account its revenue would remain considerably below the present level. But although the company now conducts its business under conditions which may be termed the most favourable possible under the circumstances, it is by no means prosperous. The subjoined copy of the income account, reprinted from the report for 1891 which was submitted to the share and bondholders in April, 1892, shows a total available revenue of $2,233,109, of which $951,266 are absorbed by rentals, taxes, etc.; of the remaining $1,281,843 $480,000 are required for the interest of the prior lien bonds and $162,942 for various special funds, so that net earnings above fixed charges in that year amounted to $683,901; to this sum a surplus of $123,697 and $38,575 from a special fund could be added, and thus $801,113 remained for interest on bonds. We need only remember that payment in cash of interest on the first mortgage bonds alone requires upwards of $3,000,000 to see at once what state the company is in. And 1891 was not at all a bad year, as can be seen from the table immediately following the income account; I believe it may fairly be said that the road's performance during the twelvemonth ending with September, 1891, was an average. Those interested in the property can infer from this what prospects are before them.

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[1] This revenue amounted to $7,115,294.67.

Income Account for Twelve Months ending 30th Sept., 1891.

REVENUE.	$	$
Income from rental under the lease to the N. Y. L. E. and W. RR. Co., for twelve months ending 30th September, 1891:—		
Gross earnings	7,074,842.46	
Add gross earnings on material for use of the N. Y., L. E. & W. RR. Co., at 3 mills per ton per mile	40,422.21	
Gross earnings to divide	$7,115,264.67	
Income from rental is 30 $^9/_{10}$ per cent. of $7,115,264.67		2,198,616.78
Income from other sources:		
Dividends on Sharon Railway stock	1,888.30	
Interest on Chicago & Erie Railroad bonds	1,160.00	
Rent of equipment on Ore Docks, Cleveland	22,305.12	
Interest from N. Y. P. & O. RR. Co. equipment trust, 1890	4 784.31	
Interest and exchange	4,355.17	34,408.10
Total income from all sources		$2,233,100.88
EXPENDITURE.		
Hire of cars under car trust—J. L. Welsh. Expires 1st July, 1893	22,270.00	
Hire of 20 locomotives, etc.	12,225.36	
Hire of refrigerator cars	19,165.35	
New York, Pennsylvania & Ohio RR. Co. equipment trust of 1888	97,336.31	
New York, Pennsylvania & Ohio RR. Co. equipment trust of 1890	102,199.19	
Rent of Cleveland and Mahoning Valley Railway lines	514,180.00	
Rent of Sharon Railway	32,549.75	
Rent of Westerman Railroad	4,200.00	
Rent of Newcastle & Shenango Valley Railroad	15,921.09	
Rent of water rights	42.50	
Rent of docks, lots, etc.	36,735.00	
General expenses	4,669.35	
Taxes	4,213.84	
London agency expenses	28,432.34	
Current expenses of company	54,872.01	
Settlement of business prior to 1st May, 1883	2 253.63	951,266.01
Net income for twelve months		$1,281,849.87

	$	$
Interest on prior lien bonds, due and accrued..	480,000.00	
Special fund applicable additions to for the year 1890 on the company's lines—Sharon Railway excepted	39,148.17	
Special fund to meet payments for Sharon railway stock for year 1890	5,347,57	
Special fund applicable to additions for the year 1891, on the company's lines—Sharon Railway excepted	82,029.52	
Special fund to meet payments for Sharon Railway stock for year 1891	3,656.43	
Special fund for special additions in 1891.	19,021.03	
Special fund to meet payments on account of capital	10,032 05	
Special fund for contingent liabilities	3,707.85	642,942.62
Net earnings for the year, as specified in Article XI. of the First Mortgage Deed		638,901.25
Add amount taken from special fund for contingent liabilities		38,515.32
Add surplus fund, 30th September, 1890.		123,697.20
Total earnings applicable to payment of interest on first mortgage bonds		801,113.77
From which was declared—		
Dividend on account of Coupon No. 22 of first mortgage bonds, due 1st July, 1891	302,828.40	
Dividend on account of Coupon No. 23 of first mortgage bonds, due 1st January, 1892	387,807.58	690,635.98
Surplus carried to next year		110,477.79

Traffic and Earnings of the New York, Pennsylvania and Ohio Railroad for three years ending 1891.

Year.	Average mileage operated.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate per mile, cents.	Revenue, — $	Million tons carried one mile.	Rate per ton-mile, cents.	Revenue, — $
1889	596	75 9	1 85	1,407,325	809·7	.578	4.676.911
1890	598	78 9	1.91	1,469,287	902 7	.582	5,471,781
1891	596	86·8	1.84	1,601,805	893·5	.574	5,127,767

The strained relations of the company with the lessee are chiefly caused by the former's inability to bring its road and equipment up to the requirements of the time. Taking into account the financial condition of the New York, Pennsylvania and Ohio, one cannot attribute its failure to effect such improvements to unwillingness, and the small annual appropriation for improvements serves little or no purpose. The following extracts from the last reports of the companies show the *pros.* and *cons.* of this dispute.

The Erie report says:—

"Nothing has yet been done by the New York, Pennsylvania and Ohio Company in the direction of the suggestions made in the last annual report, as follows: 'One of the great difficulties to be overcome in the successful operation of this property is its lack of facilities. Being a single-track road, with inadequate sidings, heavy grades, and insufficient equipment, it has to compete with similar connections of the other trunk lines, notably the Lake Shore and Fort Wayne roads, upon which large sums have been expended in improvements in the last few years. It is hoped that the N. Y., P. & O. management will appreciate the changed conditions of railroad traffic and provide the necessary capital to bring their line up to the standard of like connections of other trunk lines, as the lease provides they should do. Unless this can be accomplished it will be almost impossible for your company, owing to the great increase in its own business, to forward over the N. Y., P. & O. line the percentages of traffic specified in the lease. These percentages were fixed at a time when the condition of business was very different; and it is plain that now they should either be altered or the facilities of the N. Y., P. & O. road should be increased to an extent that will enable it to meet the requirements of the changed situation." The attention of the officers of the New York, Pennsylvania and Ohio company has again been called to this important subject, and at the date of this report it is under negotiation. It is absolutely requisite that the heavy grades on that road be reduced. The traffic of your company has constantly grown in much greater proportions than that of the New York, Pennsylvania and Ohio Company. The business of the Chicago & Erie is also increasing, and the New York, Pennsylvania and Ohio road, situated as it is between the two roads, is frequently unable to take forward the business as promptly as received. Constant improvements are also being made by the Erie and the Chicago & Erie Companies.

"Out of a total distance of 374 miles of the main line of N. Y., P. & O., 78 are of adverse grades, some as high as 66 feet to the mile eastward and as high as 75 feet to the mile westward, being much higher than the grades on the Erie road proper. The maximum grade of the Chicago & Erie in both directions never exceeds 26 feet per mile, and 96 per cent. of its entire length is absolutely straight. Before the close of the next fiscal year it is expected that the Chicago & Erie will be in perfect condition, and unless the high grades on the New York, Pennsylvania and Ohio road are reduced and a large addition of double track and passing sidings are laid, that road will be at a marked disadvantage as compared with the Chicago & Erie, and will be an inefficient link in the great system between New York and Chicago."

To this the report of the New York, Pensylvania and Ohio RR. replies:—

"Since the amendment of the lease in 1890 there has been far less friction between the lessor and lessee companies than formerly. During the past year the arbitration between our company and the lessee company, with regard to the stock of the Sharon Railway issued to us as an equivalent for the betterments placed on that road through the medium of our betterment fund, and the ownership of which was claimed by the lessee company, has been heard and decided in our favour. There is but one arbitration now pending, viz., a claim by us for pay for our engines used by the Chicago and Erie Company while reconstructing its road; and our president reports that "there are now but comparatively few differences between us and the lessee, and these are generally adjusted by mutual conference."

There is one point of difference, however, between the lessor and lessee companies which keeps from time to time cropping up, and on which the Erie management have, it is thought, somewhat unduly animadverted in two successive annual reports, viz., the fact that there exist heavy adverse grades (some as much as 75 feet to the mile) on the main line of the New York, Pennsylvania and Ohio road, and that these, coupled with the fact that the New York, Pennsylvania and Ohio is a single-track road, render it impossible for the Erie company to carry the heavy through traffic over that road as economically or as advantageously as such traffic can be carried over the Lake Shore or the Chicago and Erie roads with their very light grades.

It is true that not only are the working expenses considerably increased by such grades, since an engine can haul over them but little more than half the number of loaded cars the same engine could haul over the other two roads specified, but also considerable delay is caused by the necessity of breaking up and remaking the trains in transit; and as shippers now require the higher classes of freight to be carried forward at a much greater speed than formerly, there can be no doubt that the Erie Company is to some considerable extent placed at a disadvantage in competing for the higher and more lucrative classes of through business owing to these grades, and that it would be a material benefit to that company, and to a considerable extent to this company also, if these grades were cut down and certain portions of the main track of the New York, Pennsylvania and Ohio double-tracked. Moreover, the increased net revenue arising out of the increase of business and the curtailment of expenses caused by such improvements would in all probability in a few years' time more than pay the interest on their cost.

When the lease of the New York, Pennsylvania and Ohio road was drawn, it was specified that $100,000 of the net revenue of this company should be annually devoted to the improvement of that road, which has been regularly done; but it was even then recognised that such an amount would not suffice to effect such larger improvements of the line as might in the future be found necessary, and to meet this a special clause was inserted in the lease (Clause 14) by which power was given to the lessee company to make such improvements at its own expense, to charge the interest on their cost at an agreed rate to the N. Y., P. & O., and to constitute the cost of such improvements a lien on the road. The New York, Pennsylvania and Ohio Company *having no funds whatever available to effect improvements on capital account*, except the said sum of $100,000 from its annual revenue, it is clear that if such improvements are to be effected at all, prior to 1885, they must be effected under this clause in the Erie lease; and in answer to the reiterated complaints of the lessees, it has been pointed out to them again and again that the remedy was in their own hands, under Clause 14 of the lease. They, however, for some reason have never been willing to advance the funds necessary to remove the difficulties of which they have so persistently complained.

The Erie itself greatly needs a double track from Hornellsville to Carrollton, a distance of 76 miles, and our own road would be much improved by a double track in several of its sections and a reduction of grade in various places to enable the traffic between New York and the West to be carried over the joint roads to *the best advantage*, both as regards economy, speed, and safety; it can, however, serve no useful purpose to be constantly referring to these matters in a spirit of complaint so long as the New York, Pennsylvania and Ohio Company is unwilling to provide the necessary funds to carry out these improvements.

Moreover, the Trustees would call attention to the fact that the adverse grades complained of are no new matter, and that the Erie Company were well aware of all the disadvantageous circumstances connected with the location of the New York, Pennsylvania and Ohio road at the time the lease was made and amended, also that they were duly taken into consideration in determining the percentage of the gross revenue that should be paid as rental by the Erie Company. In other words, had these disadvantages not existed, the Erie Company would have had to pay a higher rental for the property."

The subjoined table shows the interest paid in cash and warrants, and the warrants issued since 1885.

Coupon Due.	*Paid in Cash.*	*Paid in Warrants.*	*Warrants issued.*
	$	$	$
July 1881.	—	35.00	—
Jan. 1882.	—	35.00	—
July „	—	35.00	—
Jan. 1883.	12.50	22.50	—
July „	—	35.00	—
Jan. 1884.	14.25	20.75	—
July „	5.00	30.00	—
Jan. 1885.	—	35.00	—
July „	—	35.00	1,536,745
Jan. 1886.	6.25	28.75	1,267,674
July „	6.25	28.75	1,270,347
Jan. 1887.	7.50	27.50	1,216,490
July „	3.25	31.75	1,383,187
Jan. 1888.	6.25	28.75	1,272,906
July „	5.00	30.00	1,328,490
Jan. 1889.	6.25	28.75	1,273,481
July „	—	35.00	1,550,675
Jan. 1890.	12.50	22.50	998,975
July „	10.00	20.00	1,107,950
Jan. 1891.	8.00	27.00	1,196,667
July „	7.00	28.00	1,241,100
Jan. 1892.	9.00	26.00	—
July „	8.00	27.00	—
Total amount of warrants issued up to July, 1891.			16,642,688

CHAPTER XXVIII.

THE OHIO AND MISSISSIPPI RR.

The Ohio and Mississippi Railroad is one of the oldest in the Central States, the original line having been projected before 1850, although the present corporation only dates from the reorganisation of 1867. The system has a length of 636 miles and practically consists of two parts, the main line from Cincinnati to East St. Louis, and the line from Beardstown, Ill., on the Illinois river, to Shawneetown, Ill., on the Ohio river; to these a few branches have been added, that from North Vernon to Jeffersonville, opposite Louisville, being the most important.

The following is a summary of the lines operated by the company and now controlled by the Baltimore and Ohio:—

Main line, Cincinnati to East St. Louis	339	miles.
Louisville branch, North Vernon to Jeffersonville	53	„
Springfield Div., Beardstown, Ill., to Shawneetown, Ky.,	229	„
Bedford branch, 8 miles, N. Albany & Eastern 7 miles.	15	„
Total	635	„

The Ohio and Mississippi is principally a connection between Cincinnati and St. Louis, and as such it enjoys unusual advantages, being not only the shortest, but also the only direct route between the two towns, although the Vanderbilt and Pennsylvania lines to the North and the Louisville and Nashville to the South form communications between its two terminals. As yet the connections between St. Louis and the coast are limited in number, the Pennsylvania and Vanderbilt lines and the Louisville and Nashville—Norfolk and Western combination being, until the lease of the O. & M. to the B. and O, the only through routes between the Southwestern capital and the seaboard. But the Southwest is a region of the greatest promise, a region for which many predict a future as brilliant as that of the Northwest; and, as was the case with Wisconsin and Minnesota, there is in the instance of Missouri, Kansas, etc., a general desire among the trunk lines to reach the commercial outlet of the region before the country itself is fully developed, in order to secure a share of the future traffic. Both the Pennsylvania and Vanderbilt interests were thus prompted to extend their systems as far as St. Louis, and there being several roads anxious to follow the example set by these two trunk lines, the Ohio and Mississippi has always been a much desired connection. The company is a poor one both in respect of its finances and the condition of its property; nevertheless there always were a number of candidates eager to possess control. Formerly the Erie had very close relations with the road, and next the Baltimore and Ohio was lessee of the entire system, a fact which had no pronounced effect either one way or the other upon its affairs. The western managers at the time were opposed to this lease, it is alleged because they thought their company was "farmed" by the lessee, and these gentlemen eventually succeeded in wresting the property from the control of the Garrett road. This move again had little effect upon the company's affairs, and the shareholders, especially the foreign contingent, who seem to have expected very marked results from independent operation of the road, soon showed their dissatisfaction, and indicated that they were willing to consider proposals relating to new alliances. The 'Big Four' was repeatedly said to be flirting with the O. and M., and the Chesapeake and Ohio, a road in which the Vanderbilt group is deeply interested, was openly acknowledged to be striving after an alliance which would undoubtedly have strengthened its somewhat weak position. During the summer of 1891 President Ingalls of the Chesapeake road went to London, avowedly to confer with the English shareholders of the O. & M., and negotiations seem to have progressed favourably; at least this must be inferred from the fact that Mr. Ingalls issued an order instructing the freight department of his road to throw as much traffic as possible on the other line and to use its cars as its own. But somehow a hitch in these arrangements occurred, and instead of an alliance with the C. and O. being effected it was reported that President Mayer, of the Baltimore and Ohio, who was also in London, was carrying on negotiations for the control of the road, which was soon after announced to have been recaptured by its former lessee, there having in the meantime been vague rumours to the effect that the Norfolk and Western had endeavoured to secure control. After the arrangements with the Baltimore and Ohio were made public, the board of the C. & O. refused to recognise the vote cast by Messrs. Brown Shipley & Co. on behalf of the English shareholders in accordance with the agreement between them and President Mayer, and litigation followed, with the result that the validity of this vote was upheld by two courts, while a possible appeal remains to be decided. It requires little far-sightedness to see that the opposition is supported by the Chesapeake and Ohio, a road anxious to improve its status as a carrier of Western freights and to obtain a direct St. Louis connection; but the litigation can hardly be expected to lead to a reversion of former judgments. The management of the Ohio and Mississippi must therefore be assumed to be firmly and permanently vested in the 'control company' created under the auspices of the Baltimore and Ohio, details of which are given below.

The Ohio and Mississippi Railway was opened for traffic in 1867, and in 1876, owing to default on interest, it was placed in the hands of a receiver, where it remained until

April, 1884, a reorganisation scheme having been adopted in October, 1882. Anterior to this scheme the capitalisation consisted of:—

	1882.
Share capital:—	$
Common shares	20,000,000
Preferred „	4,030,000
Funded debt:—	$
7 per cent. first mortgage bonds, due January 1, 1898	6,716,000
7 per cent. second mortgage bonds, due April 1, 1911	3,833,000
7 per cent. income and funded debt bonds, due October 1, 1882	174,000
7 per cent. sinking fund bonds, due May 1, 1883	140,000
7 per cent. first mortgage (Springfield Div.) bonds, due April 1, 1905	2,009,000
In addition to above, the following debts were due October 1, 1883:	
Old Western division bonds, past due	97,000
Debts secured by pledge of Springfield division bonds	250,000
Other debts, about	100,000
Arrears of interest on first, second and Springfield division bonds, at face	822,955
Arrears of sinking funds, exclusive of interest on first mortgage bonds in first mortgage sinking fund	496,845

The reorganisation provided for the creation of a series of 5 per cent. 50-year bonds, secured by mortgage on the road, equipment, and personal property of the company, to the amount of $16,000,000, of which $12,784,000 was to be exchanged for old bonds as they matured, and in the following manner: Income and funded debt bonds, due October 1st, 1882, $174,000; first consolidated mortgage bonds, due January 1st, 1898, $6,772,000; second consolidated mortgage bonds, due April 1st, 1911, $3,829,000; Springfield division bonds, due November 1st, 1905, $2,009,000. The remainder ($3,216,000) was to be used for the following purposes: 1.—To pay overdue coupons on first mortgage, $48,820; on second mortgage, $536,060; on Springfield division, $351,575. 2.—To pay contributions to first mortgage sinking fund, $177,000; second ditto, $165,845. 3.—To pay second mortgage Western division bonds, $97,000; debenture bonds, $140,000; special loans (for which Springfield division bonds have been hypothecated) $250,000; remainder of floating debt, $150,000; contingent liabilities, $300,000; additional equipment and terminal facilities, $999,695. The

$3,216,000 issue was to be further secured by a pledge of $991,000 Springfield division bonds, to be cancelled on the retirement of the first mortgage bonds of the company. The $12,784,000 were to be held for the sole purpose of retiring the old bonds as they mature. The majority of bonds not being due yet the scheme is still pending completion. The funded debt now amounts to $594,719, and was reduced last year from a little over a million.

Funded and Unfunded Debt, and Interest on Funded Debt, for the year ending June 30th, 1891.

FUNDED DEBT.	*Principal.*	*Rate.*	*Interest matures.*	*Int. accrued. July 1, '90, to June 30, '91.*
	$	p.c.		$
First mortgage consolidated and sinking fund bonds (1898)........	6,501,000.00	7	Jan. and July.	455,070.00
Sterling consolidated and sinking fund bonds (1898)........	112,000.00	6	Jan. and July.	6,720.00
Second mortgage consolidated and sinking fund bonds (1911)....	3,334,000.00	7	April and Oct.	232,890.01
First mortgage Springfield division bonds (1905)............	2,009,000.00	7	May and Nov.	140,630.00
*First general mortgage 5 p. c. coupon bonds (1932)............	3,886,000.00	5	June and Dec.	193,016.66
†First mortgage Cin. and Bedford Ry. 5 p. c. gold bonds (1919)....	135,000.00	5	May and Nov.	7,875.00
Equipment trust certificates (1888-97)......	354,000.00	6	April and Oct.	21,990.00
§Equipment trust certificates, series "B" (1891—1900)........	91,000.00	6	Jan. and July.	5,700.00
Equipment trust certificates, series "C" 1892-1901..........	100,000.00	6	Jan. and July.	3,000.00
Totals. ...	$16,522,000.00			$1,066,891.67

* Entire amount authorised (see above) $16,000,000, of which $12,114,000 is reserved for the purpose of taking up prior mortgage indebtedness.

† Interest shown is for fourteen months, from May 1, 1890.

§ Includes one certificate ($1,000) called for redemption and on which interes ceased January 1, 1891.

The common and preferred stock and the 1st gen. 3 p c. bonds are quoted in London.

The share capital, consisting of $20,062,629 common and $4,030,000 preferred shares, has now been acquired by the control company referred to above. The capital of this company is as follows: Five per cent. first income mortgage bonds, $5,800,000; five per cent. second income mortgage bonds, $6,000,000; five per cent. non-cumulative preferred stock $16,000,000; common stock, $8,000,000. Preferred shareholders receive $1,340 in first income bonds and six per cent. in cash for every $1,000 of existing seven per cent. share capital; every $1,000 of ordinary share capital receive $300 in second income bonds and $800 of the new preferred stock. The ordinary stock of the controlling company was handed over to the Baltimore and Ohio, which assumed control of the Ohio and Mississippi and, in consideration of the stock received, guarantees the interest upon the new four and a half per cent. mortgage bonds which were issued to retire existing bonds and to provide new capital for the physical rehabilitation of the line. This arrangement seems to deserve approval from the shareholder's point of view; their property might perhaps have fared better had it remained independent after being put in an efficient condition, but the arrangement with the B. and O. has this advantage—that it removes the possibility of a new default and of assessments being levied to effect repairs. Moreover, the sacrifice of future returns on common stock is exceedingly small; the new incomes and preferred shares of course take precedence over the stock held by the Baltimore and Ohio, and even if these common shares yield returns—a remote possibility—the former common shareholders will find their sacrifice still comparatively insignificant. On the other hand, the Baltimore and Ohio has not paid too high a price for the best connection between Cincinnati and St. Louis. Its guarantee covers a sum a trifle in excess of the present net revenue of the company, (if taken to include the interest required for the betterment bonds to be issued), but it will find no difficulty in throwing enough traffic on the re-leased property to obviate deficits, especially when the road is put in thorough condition. To do this will presumably call for some $2,500,000, although the president of the company has stated $690,000 to be all that is required. That effectual betterments will have a most wholesome influence upon earnings cannot be doubted, and it may be assumed that the latter will be enhanced in such manner as will offset the increase in first charges to result from the issue of new bonds. At present the O. & M., owing to its heavy working expenses, (approaching 0.65c. per ton-mile in 1891, chiefly because all improvements had to be paid for out of earnings, the credit of the company being exhausted) is not able to compete with better roads, but efficiency up to date would change this, and place the road in a position to cater vigourously and successfully for low freights, notably for the soft coals from the Illinois coal district, which its Springfield division taps; this fuel constitutes one-third of the tonnage shipped over its lines. The company's inability to carry low freights at cheap rates and still with profit is chiefly responsible for the curious and deplorable phenomenon that the freight movement in 1891 was smaller than in 1883, whereas on most lines in the same region it has considerably increased during the same period.

Table showing Mileage and Freight and Passenger Movement on the Ohio and Mississippi RR. since 1881.

Year.	Mileage opera'ed.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue, — $
1882	616	64·4	2.22	1,432,552	179·1	1.17	2,099,344
1883	616	67 5	2.19	1,475,771	280·6	1 00	2,631,747
1884	616	73 8	2.00	1,478,920	224 8	1.05	2,379,636
1885	616	64 8	2.05	1,330,948	253·2	.81	2,068,547
1886	616	57·4	2.07	1,191,589	318 9	.698	2,227,255
1887	616	64·7	2 08	1,315,309	334·2	.720	2,407,825
1888	616	67·2	2.13	1,435,109	297·4	.736	2,268,672
1889	624	76 1	1.91	1,456,779	272·7	.874	2,218,961
1890	628	66·9	2.23	1,492,787	285 0	.854	2,433,555
1891	636	71·2	2.06	1,466,836	248·6	.937	2,332,247

Subjoined are the usual tables relating to earnings, expenses, income and financial condition of the company.

Earnings and Expenses.

	1891-92. $	1890-91. $	1889-90. $	1888-89. $	1887-88. $
Earnings—					
Passengers	——	1,466,829	1,492,738	1,456,800	1,435,109
Freight	——	2,332,248	2,433,555	2,218,961	2,268,672
Express and mail	——	309,898	288,454	279,404	273,778
Total	4,228,405	4,108,975	4,214,747	3,955,165	3,977,559
Expenses—					
Transportation	——	1,138,613	1,355,472	1,448,735	1,434,686
Maintenance of cars	——	415,548	404,663	240,892	196,796
Maintenance of way, etc.	——	650,782	679,416	769,546	652,657
General and taxes	——	731,619	472,922	476,184	449,278
Total	3,208,674	2,936,562	2,912,473	2,935,361	2,733,417
Net earnings	1,019,731	1,172,413	1,302,274	1,019,804	1,244,241

Revenue and Expenditure.

	1891-92. $	1890-91. $	1889-90. $	1888-89. $	1887-88. $
Revenue—					
Net earnings	1,019,731	1,172,413	1,302,274	1,019,804	1,244,142
Expenditure—					
Interest on debt	——	1,066,890	1,054,245	1,047,671	1,042,530
Sinking fund	——	73,000	69,000	65,000	61,000
Miscellaneous	——	*70,162	*96,600	*80,377	29,931
Total	——	1,210,052	1,219,845	1,193,048	1,133,461
Balance	——	def.37,639	sur.82,429	def.173,244	sur.110,681

* This includes $30,500 to equipment trust in 1888-89 and 1889-90, and $60,500 in 1890-91.

General Balance Sheet, June 30th, 1891.

Assets—	$	*Liabilities—*	$
Cost of road	38,743,074.12	Common stock	19,991,102.25
Equipment accounts	1,912,229.97	Common certificates	71,527.43
Other property accounts	40,042.59	Preferred stock	4,025,074.06
		Preferred certificates	4,925.04
Ohio and Mississippi RR. equipment trust	714,400.00	Bonded debt	15,977,000.00
Material on hand	107,308.60	Equipm. trust certificates	545,000.00
Cash in hands of treasurer	15,496.80	Dividends unclaimed	3,302.17
Cash in hands of Coupon Agents, New York	243,007.56	Coupons due but not presented	27,454.08
Cash in hands of Coupon Agents, London	3,430.33	Wages unpaid (June '91, pay rolls and arrears)	149,743.47
		Vouchers unpaid	124,160.95
Balances due from agents, railroads, and others	135,526.52	Bridge tolls unpaid	40,058.36
Sinking funds	1,165.38	Loans and bills payable	250,000.00
Taxes not charged out	59,558.21	Interest accrued but not due—	
Insurance not charged out	4,071.37	on bonds.... $329,994.90	
Construction account Cin'ti and Bedford Ry	42,176.86	on equipment certificates.} 11,010.00	
Other balances	23,130.37		341,004.90
		Profit and Loss account	496,354.78
	42,046,708.48		42,046,708.48

Classified Statement of Tonnage Transported for the fiscal years ending June 30th, 1890 and 1891.

Description of Freight.	*Year ending June 30th, 1891. Tons of 2,000 lbs.*	*Year ending June 30th, 1890. Tons of 2,000 lbs.*
Grain	145,232	317,984
Flour	41,489	46,919
Other mill products	23,028	19,894
Hay	27,283	20,516
Tobacco	28,926	23,255
Cotton	11,062	11,984
Fruit and vegetables	22,514	25,967
Live stock	84,690	71,586
Dressed meats	252	634
Packing-house products	10,391	3,296
Poultry, game and fish	3,328	2,951
Wool	1,134	1,130
Hides and leather	3,012	1,667
Anthracite coal	5,154	2.512
Bituminous coal	626,345	537,149
Coke	18,974	17,141
Ores	1,639	9,745
Stone, sand, etc.	85,627	30,519
Salt	3,877	3,845
Lumber	160,042	113,372
Petroleum and other oils	18 124	21,702
Iron—pig and bloom	81,270	42,148
Iron and steel rails	3,535	5,014
Castings and machinery	7,930	6,[illegible]47
Bar and sheet metal	12,985	21,169
Cement, brick and lime	69,402	63,686
Agricultural implements	1,810	722
Wagons, carriages, tools, etc.	87,095	76,800
Wines, liquors, and beer	59,504	32,854
Household goods and furniture	2,565	2 365
Merchandise	162,088	188,827
Miscellaneous	105,936	54,726
	1,866,838	1,787,058

NOTE. *For statement of funded debt See p. 427.*

CHAPTER XXIX.

MINOR MEMBERS OF THE CENTRAL GROUP.

Although it lies beyond the scope of this work to give details of every railway in the United States, it seems desirable to add a few data relating to a number of smaller lines of considerable import either as local competitors or connections of the greater systems to be found in the Central States—as we have chosen to name the group of Commonwealths in which the railways dealt with in chapters XXII to XXIX are situated. It goes almost without saying that a region so comparatively densely populated as this, and enjoying such a wealth of agricultural and industrial resources, possesses a number of small lines to which the greatest local importance is attached, and it is equally evident that either as disturbing or assisting factors these minor systems have a great bearing upon the trunk lines or their allies.

There are five groups of these railways. The most conspicuous among them is composed of lines connecting Cleveland and Pittsburg with the surrounding mining districts, and, as it were, clustered around the Northeastern section of the New York, Pennsylvania and Ohio system. Next comes a group of roads terminating in Toledo; a third is to be found in Michigan, a fourth in Southern Indiana and Ohio, and a fifth runs from the Ohio river north. Apart from these there are, of course, the trunk lines or parts thereof already referred to, and a few lines belonging to systems the centre of which does not lie in this region, and which therefore are dealt with elsewhere.

It is quite superflous to remark that the portions of the powerful trunk lines to be found in this section of the country play very important roles (see p. 379). The four roads forming part of the Vanderbilt system with its commanding situation, the 'Western Lines' of the Pennsylvania, and the trans-Ohio portion of the Baltimore and Ohio necessarily occupy a prominent position in local traffic as well as in through business. The New York, Pennsylvania and Ohio, though less important than the central parts of other trunk lines, is indispensable to the Erie, and of considerable account in local business; and the same holds good of the Chicago and Atlantic. Then the Grand Trunk and the Wabash, though merely parts of systems centreing elsewhere, have a bearing upon transportation business; and it will be necessary to briefly refer to these various lines if we wish to give a correct sketch of the railroad situation in the Central States.

The *Chicago and Erie* derives its importance chiefly from the fact that it is the Chicago connection of the Erie system. In Marion the road, 268 miles long, meets the New York, Pennsylvania and Ohio, and thence it goes in an almost straight line to Hammond, Ind., where it connects with Chicago by using the tracks of the Chicago and Western Indiana RR., whose terminals it also shares and whose property it owns in part. The C. & E. proper is 249 miles long, 19 miles of the tracks it uses being the property of the Chicago and Western Indiana.

The present company is a reorganisation of the Chicago and Atlantic, which defaulted on interest in November, 1884, and was sold in foreclosure August 12th, 1890. The New York, Lake Erie & Western owns the entire stock of $100,000 and guarantees the interest on the first mortgage bonds. The funded debt consists of $12,000,000 5 p.c. first mortgage bonds and $10,000,000 5 p.c. non cumulative incomes. Of the former

$6,825,000 were exchanged for the old firsts, $700,000 for old seconds, $2,000,000 were given to the Erie in payment of old dues, and an equal amount was reserved for betterments; of the incomes the old firsts received $975,000, the old seconds $4,000,000, and the Erie $5,000,000 in consideration of its guarantee of the first mortgage bonds. The road therefore is largely owned, and, on account of all shares being held, entirely controlled by the Erie, so that the latter profits by every amelioration in the affairs of this company. Part of the bonds reserved for betterments are issued, and, as the result of these improvements, traffic has become more profitable. Since the reorganisation no report covering a whole fiscal year has been issued, but the first ten months of 1891 resulted in the debt to the Erie ($216,000) being decreased by $196,897. The subjoined details to be found in the Erie report for 1890 are of interest:—

"Since the last annual report the old Chicago and Atlantic Railway has been sold and the Company reorganised. The reorganisation was effected under the terms of the circular of Messrs. Drexel, Morgan & Co. of March 16th, 1887. The litigation growing out of the relations of this company to the Chicago and Atlantic, extending over the past five years, has been tedious and complicated, but the same is now happily ended. The property now belongs to the new Chicago and Erie Railroad Company. This is an Indiana corporation, with a capital stock of $100,000, all of the shares of which belong to this company. The property is subject to an issue of $12,000,000 first mortgage bonds due in May, 1982, bearing interest at 4 p.c. until May, 1892, and 5 p.c. per annum thereafter (the prompt payment of the interest being guaranteed by your company), $2,000,000 of which bonds are reserved for betterments; and also subject to an income mortgage securing $10,000,000 of non-cumulative 5 p.c. income bonds, payable on or before October, 1982, the interest upon which bonds is payable to the extent that the gross earnings for any year will suffice under an arrangement stated in the mortgage which provides that if the gross earnings amount to $2,250,000 or less, 22½ p.c. thereof is applicable to the payment of the interest on the first mortgage bonds and the surplus (after the payment of $216,000, the balance of the debt due to your company) if any, to the payment of the interest on the income bonds, and as the gross earnings increase the percentage increases, in the ratio and upon the terms fully set forth in the income mortgage. Your company received $2,000,000 of the first mortgage bonds in part payment of the debt of the old Chicago and Atlantic Company to it, and $5,000,000 of the income mortgage bonds in part consideration for its guarantee. The road was turned over to the new company on September 1st last, since which time it has been operated by the new company and with a full corps of officers. This new and valuable acquisition gives this company a solid through line from New York to Chicago, with all its resulting and manifest advantages. The road is very straight, with a maximum grade of 26 feet, and it is confidently expected that as soon as the line is brought up to the Erie standard and properly equipped, satisfactory results will be accomplished; and with this object in view it was deemed expedient on September 1st, when the new company took possession of the road, to make an immediate outlay of a considerable sum on the tracks, bridges and other structures. Large forces of men were organised for that purpose, and at the date of this report the road has been greatly improved. Your company decided that it would be best to expend this money while the weather held good, and anticipate the sale of the betterment bonds, which it was not thought desirable to offer for sale at present, in view of the financial disturbances. Arrangements are now being made to provide, from the betterment fund, an equipment of cars and engines adequate to take care of the very large amount of business offered to the road."

As a factor in local and through traffic the *Wabash* is of more interest than the Chicago and Erie. This line connects St. Louis and Kansas City with Lake Erie, and the main line divides at Logansport, one section going to Toledo and the other to Detroit. At present it carries freight between Chicago and Detroit by co-operating with the Chicago and Erie, but a direct route between Chicago and Detroit which will avail itself of part of the existing line is now in course of construction, and if completed will constitute the shortest route between Chicago and Detroit. The Wabash has Eastern connections, firstly by a compact with the Michigan Central and West Shore, and secondly by an agreement with the Grand Trunk and the Erie. Mention has also been made of an alliance with the Canadian Pacific. See Chap. XXXIV.

The Grand Trunk of Canada has a direct Chicago connection in the shape of the *Chicago and Grand Trunk Railway*. Like the Wabash and Erie roads, this railway effects an entrance into Chicago by using the Chicago and Western Indiana terminals. It goes to Port Huron and has various branches in Michigan, the line to Detroit and the Detroit, Grand Haven and Michigan being the principal of these. It is not proposed to deal very fully with this railway because, being owned by a Canadian line, it lies beyond our *rayon*, but we may state that in many respects the Chicago and Grand Trunk is a rather poor line which has few friends among American roads. It has frequently been at loggerheads with competing lines, and as it is weak, financially as well as strategically, it was usually worsted in spite of the advantages it derives from the circumstance that the greater part of the system to which it belongs lies outside the jurisdiction of the United States. Although its local business is developing fast, its through traffic with the seaboard will never be much, because it reaches Boston and even Portland in such a roundabout way. As regards the Chicago and Grand Trunk's business this is by no means satisfactory, as it is only necessary to quote the following figures to show. In 1890 the grain freights from Chicago increased nearly 25 per cent., while the Grand Trunk's share declined 2 per cent. Six hundred thousand tons of dressed beef more than in 1889 were carried from the Western metropolis; the Grand Trunk's shipments fell 5 per cent. And so on. The trouble is alleged to lie with low rates. No doubt this is so, but the Grand Trunk and its Chicago ally are in part responsible for these, and other lines manage to turn them to good account, *vide* the Lake Shore and Michigan Central. But these roads are in perfect condition, and this now-a-days is the key to success. The management of the G. T. apparently realises this fact, and it is gratifying to note that numerous improvements are being carried out. The ballast, ties, and rails in some places are good, especially on the main line to Port Huron, and the St. Clair Tunnel, a costly structure carrying trains under the river connecting Lake Huron with Lake Erie, has been recently completed and will do away with ferrying across the water, thereby reducing the cost of transportation to a considerable extent.

Other roads which have a share of the traffic between the West and the East are: The Toledo, St. Louis and Kansas City, the Lake Erie and Western, and the Toledo, Peoria and Western. The *Toledo, St. Louis and Kansas City RR.* runs in a straight line from East St. Louis to Toledo, and since it was standard-gauged in 1890 has carried a steadily growing proportion of Southwestern freight. The road is 451 miles long and the company dates from 1886, when it acquired its property by consolidating other lines. The *Lake Erie and Western* operates 722 miles and connects Peoria with Sandusky on Lake Erie, where it meets the Lake Shore. The *Toledo, Peoria and Western* runs from Burlington in Iowa through Illinois to Indiana State Line, and with branches has a length of 247 miles.

Turning now to the five groups of smaller railways, that lying nearest to the eastern border of Ohio is the most important. The district in which it centres abounds with minerals and subsists chiefly on mining and manufactures, coal, coke, iron, petroleum, clay etc., being met with in numerous places. The group alluded to is divisible into two sections, one of which centres around Pittsburg, the other around Cleveland. Perhaps the first should have been dealt with in the fourth part of this book, but as it was impossible to classify it with either of the three groups that part is subdivided into, we postponed reference to it until now.

The most important of these mineral roads is the *Western New York and Pennsylvania*, 639 miles long, connecting Buffalo with Oil City and Olean; an extension of 35 miles, giving connection with Newcastle, is now planned. The following statements show the principal features of traffic and finances:—

Volume of and Revenue from Traffic on the Western New York and Pennsylvania RR. during the two fiscal years ending 1891.

Year.	Mileage operated.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile	Rate, — Cents.	Revenue, — $
1889–90	639	29·2	2.44	717,584	485·9	.600	2,799,952
1890–91	639	31·4	2.39	752,979	445·9	.576	2,677,695
1891–92	647	——	——	——	——	——	——

EARNINGS AND EXPENSES. *

	1891-92.	1890-91.
	$	$
Earnings—		
Passengers	——	752,979
Freight	——	2,677,695
Mail, express, etc.	——	131.995
Total earnings.	3,580,155	3,562,669
Expenses -		
Maintenance of way, etc.	——	626,994
Maintenance of equipment	——	507,083
Conducting transportation	——	1,158,072
General	——	193,633
Total	2,398,364	2,485,782
Net earnings.	1,181,791	1,076,887
Percentage of operating expenses to earnings.	67.9	69·7

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* Figures for year ending June 30th, 1892, are taken from a preliminary report.

REVENUE AND EXPENDITURE.

	1891-92. $	1890-91. $
Receipts—		
Net earnings	1,181,791	1,076,887
Other revenue	19,548	4,074
Total	1,201,339	1,080,961
Disbursements—		
Interest on first mortgage bonds	—	503,500
Interest on real estate mortgages	—	21,586
Interest on equipment notes	—	20,836
Taxes	—	86,851
Total	653,819	632,773
Surplus	547,520	488,188

The *Pittsburg and Lake Erie RR.* operates 138 miles, joining Pittsburg with Youngstown, Newcastle and New Haven; it is managed in the interest of the Lake Shore, which owns $2,000,000 of its stock, and of which it is the Pittsburg connection. (See p. 387).

The *Pittsburg, Shenango and Lake Erie RR.* is the outcome of a recent consolidation, and manages 154 miles of railway connecting Butler, Pa., with Girard, Pa.

The *Cleveland, Akron and Columbus* operates 194 miles of road, the main line of which extends from Columbus to Hudson, O., whence it connects with Cleveland by the Cleveland and Pittsburg RR. of the Pennsylvania system.

The *Cleveland and Canton*, 167 miles in extent, has recently been converted into a standard gauge line, and directly unites Cleveland with the coal district S. S.W. of Canton. The *Cleveland, Lorrain and Wheeling* joins Lorrain, on the Lake Shore RR., with West Wheeling on the Ohio, and is controlled by the Lake Shore. The *Cleveland and Mahoning Valley* is leased by the New York, Pennsylvania and Ohio, is 125 miles long, and connects Cleveland with the Erie system. The *Cleveland and Marietta* connects Marietta on the Ohio with Canal Dover, whence a canal runs to Cleveland.

Columbus, O., is another centre of various local railways, several of which are operated or controlled by the trunk lines and their auxiliaries Among the independent lines are the *Columbus, Shawnee and Hocking RR.*, operating 157 miles and connecting Columbus with the Shawnee and other coal districts. The *Columbus, Hocking Valley and Toledo RR.* runs through several mining districts between the Ohio River and Toledo, tapping oil fields and iron mines, notably the mines to be found in the Hocking Valley, and fire-clay fields. The main line crosses all trunk lines South of Lake Erie, and the system is 327 miles long. Below is a table, copied from the *Chronicle* (by permission), giving some details relating to the finances of this company.

	1891. $	1890. $	1889. $	1888. $
Revenue—				
Gross earnings	3,263,554	3,056,752	2,496,319	2,875.515
Net earnings	1,415,556	1,308,200	1,007,692	1.221,853
Miscellaneous	40,371	32,147	28,335	28,579
Total receipts	1,455,927	1,340,347	1,036,027	1,250,432
Expenditure—				
Interest on bonds & car trust	977,420	977,420	997,8 0	984,020
Interest on floating debt	60,850	38,205	12,950	23,758
Interest to Pa. RR. on lease	24,525	24,490	24,658	24,086
Miscellaneous				3,118
Total disbursements	1,062,795	1,040,115	1,035,428	1,034,982
Balance, surplus	393,132	*300.232	599	215.451

* Of this sum $291,846 was spent for improvements and additions to rolling stock.

Toledo is the terminus of quite a number of smaller railways in addition to the road just spoken of and various trunk and other lines. To the South go: The *Wheeling and Lake Erie*, which connects with Martins Ferry on the Ohio, opposite Wheeling, Va., and operates 230 miles; in 1890—91 it earned $1,225,000 gross and $451.000 net, sufficient to pay the usual 4 p.c. on the preferred stock; the *Toledo, Columbus and Cincinnati*, terminating in Kenton, 72 miles south of Toledo, and being extended to Columbus O.; the *Toledo and Ohio Central*, controlling the *Kanawha and Michigan RR.* with which it forms a connection between Toledo and the Chesapeake and Ohio RR. which it meets in Malden, West Va. This railway is 235 miles long, including branches, earns (1891—92) $1,561,339 gross and $541,794 net, has paid dividends on common stock since 1890, and is being extended to Marietta on the Ohio. Toledo is further connected with the eastern shore of Lake Michigan by the *Toledo, Ann Arbor and North Michigan*, operating 445 miles, and earning (1891) $1,024,000 gross and (estimated) $380,000 net, sufficient to leave a small surplus after fixed charges are met. The Toledo, St. Louis and Kansas City, Lake Erie and Western, and Toledo, Peoria and Western communicating with points further West, are dealt with above.

Detroit has, in addition to the Vanderbilt Lines, Grand Trunk and Wabash, the *Detroit, Lansing and Northern*, 323 miles long, connecting with the central part of Michigan. The *Flint and Pere Marquette* is an important local system, 625 miles in extent, connecting Ledington on the east shore of Lake Michigan with Port Huron, (indirectly with Detroit and Toledo) and has numerous junctions with the Pennsylvania, Vanderbilt and Grand Trunk systems.

The Southern part of the Central States contains a further number of small lines. There are three railways with a Northern direction. The *Cincinnati, Hamilton and Dayton*, which serves as Cincinnati entrance of the Erie, traverses the picturesque Miami Valley and connects Cincinnati with Toledo, Indianapolis and Ironton on the Ohio, the future terminus of the Norfolk and Western. In Indianapolis the line forms a junction with the Louisville, New Albany and Chicago for Chicago and with the Terre Haute and others for St. Louis. This company operates 362 miles of railway; the following table shows some details of its revenue for the two years ending 1890 and 1891.

	1891.	1890.
	$	$
Gross earnings	4,658,813	3,896,451
Net earnings	1,681,641	1,519,812
Interest on bonds	566.450	528,630
C. H. & D. dividends	263,782	260,874
D. & M. dividends	180,786	175,339
Total disbursements	1,011.018	964,843
Balance, surplus	670,623	554,969

The *Evansville and Terre Haute* runs from Evansville on the Ohio (opposite Henderson on the Louisville and Nashville RR.) to Peoria, Terre Haute and St. Louis, is connected with Chicago by the Chicago and Eastern Illinois, and works closely with both this line and the Louisville and Nashville, constituting a through route between Chicago and New Orleans. The mileage operated is 415. The *Louisville, New Albany and Chicago* connects Indianapolis with Chicago and Michigan City, and Chicago with Louisville and the Louisville and Nashville, being a rival of the Evansville and Terre Haute.

Other lines to which some interest attaches are: The *Terre Haute and Peoria*, 173 miles, which runs in a Western direction from Terre Haute to Peoria, an important freight centre in Illinois, and the *Peoria and Eastern*, joining Indianapolis with Peoria. The *St. Louis, Alton and Terre Haute* has lost its former significance since it sold its main line from St. Louis to Terre Haute to the 'Big Four,' and is now reduced to a small system, connecting St. Louis with Paducah on the Ohio and Eldorado, Ill., and traversing the soft coal fields of Southern Illinois. *The Terre Haute and Indianapolis* operates 501 miles of railway, connecting Indianapolis with St. Louis, via Terre Haute, and Terre Haute with Lake Michigan. The St. Louis, Vandalia and Terre Haute, which is part of the system, is leased for joint account with the Pittsburg, Cincinnati, Chicago and St. Louis RR. of the Pennsylvania system.

PART VI.

THE NORTHWESTERN GROUP.

CHAPTER XXX.

THE NORTHWEST AND ITS RAILROADS.

Although the term Northwest is somewhat vague in its meaning it is generally understood to indicate the country embracing the States of Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Iowa, and that part of Michigan which is bordered in the North by Lake Superior. This region covers nearly one-seventh of the total area of the United States, contains one-sixth of her population, and represents one-eighth of her wealth; nevertheless, it can hardly be said to have more than entered upon its economic career. Its vast and fertile plains, already renowned as "the country that feeds the world," are but partially under cultivation; its mineral wealth still slumbers in the bowels of the earth; its prosperous towns, notwithstanding their miraculous growth and the activity of their inhabitants, are but metropoles in embryo; its population, although counted by the million, is still but thinly scattered over a vast territory. The Northwest of to-day, wonderful country though it be, is only the nucleus of an empire capable of supporting a hundred million inhabitants, and its history scarcely more than the forecast of a future that will entirely eclipse the present.

The region is bordered in the North by Lake Superior and Canada, in the West by Montana and Wyoming, in the South by Kansas and the Missouri River, and in the East by the Indiana State boundary and Lake Michigan. It consists chiefly of prairie, flat and featureless but fertile, and is intersected by numerous tributaries of the Mississippi;

only the North—Wisconsin, Minnesota, Dakota and the Michigan Peninsula—abounds with hills and lakes. In some sections, notably in the region adjacent to Lake Superior and the Canadian border, the soil is still covered with dense forests; in others minerals abound, as in Illinois with its bituminous coal fields employing 24,000 miners[1] or near the south shore of Lake Superior, famous for its copper and other ore deposits.

Both mining and the lumber trade are of very great importance, yet their dimensions are absolutely dwarfed by the vast agricultural resources that form the principal characteristics of the Northwestern country. The production of cereals is the great feature, the backbone of the Granger States, and though it has by no means attained anything like the height of its development, it has long since reached a stage which has impressed its stamp upon the entire civilised world; for, in an average year, these seven States are capable of producing 600,000,000 bushels of corn, 200,000,000 bushels of wheat, and 300,000,000 bushels of oats, not to speak of other produce. Yet in some States less than ten per cent. of the soil has been touched by the plough,[2] and even the most densely settled districts, it is generally said, do not produce one-fourth of what the land could be made to yield were it situated, say, in New England or in Europe. Nevertheless, it is capable of sending away every year at least two hundred thousand car loads of cereals and millions of cattle, not to mention other produce, such as potatoes, flax or hayseed.

Subjoined are tables giving some data relating to area, population, wealth, etc., of the Northwestern States.

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[1] U. S. Census Report of 1891.

[2] Of South Dakota but 8 per cent. of the soil is under cultivation, of North Dakota but 4 per cent. (1890)

Table showing Area, Population and Assessed Valuation of the Northwestern States Census of 1890.

	Area sq. miles.	Population 1890.	Assessed valuat on, (millions of dollars).
Illinois	56,650	3,826,000	727·4
Iowa	56,025	1,912,000	530·6
Wisconsin.	56,040	1,687,000	592·8
Minnesota.	83,365	1,302,000	588·5
North Dakota.	70,795	182,000	78·8
South Dakota.	77,650	329,000	131·5
Nebraska	77,510	1,060,000	184·7
Totals	478,035	10,298,000	2,834·2

Table showing Relative Importance of the Northwestern States as compared with that of the entire Union. Census of 1890.

	Northwestern States.	United States.
Area (square miles)	478,000	3,602,500
Population	10,298,000	62,622,000
Assessed valuation	$2,834,200,000	$24,249,600,000
Miles of railroad	39,740	163,420
*Capital of RR. companies	$2,009,000,000	$9,745 000,000
*Annual gross earnings of RR.	$200,500,000	$1,068,000,000
*Passengers carried one mile.	2,330,000,000	12,521,000,000
*Tons of freight	17,300,000,000	79,193,000,000

* Estimated.

It is not necessary to summarise at length the resources of each of these seven States. Illinois is the most developed of all, Iowa follows next, and then Wisconsin, Minnesota and Nebraska, while the two Dakotas have just begun to settle. As already stated, some parts of Wisconsin and Michigan produce minerals and export vast quantities of timber; in the other States agriculture in all its branches is the chief, one might almost say the only means of subsistence. In the North the principal cereals produced are wheat and oats; in the South, Indian corn and oats, though all three are produced everywhere in formidable quantities.

Table showing the Average Annual Crops of Corn, Wheat and Oats in seven Northwestern States.

	Corn.	*Wheat.*	*Oats.*
Illinois	227,000,000	30,000,000	65,000,000
Iowa	160,000,000	29,000,000	65,000,000
Wisconsin	24,000,000	14,000,000	40,000,000
Minnesota	15,000,000	36,000,000	40,000,000
Nebraska	96,000,000	18,000,000	27,000,000
N. and S. Dakota	17,000,000	50,000,000	39,000,000
Totals	539,000,000	177,000,000	276,000,000

The bulk of this produce is exported to other parts of the Bnion and Europe, most of it leaving via Chicago, the commercial metropolis of the Northwest. This wonderful city is the gate of the entire region. To Chicago the Northwest is tributary, and thousands of miles of railway, converging towards it from all parts of the compass, connect the remotest township in the back country with the Western metropolis. It is, in a twofold sense, the storehouse of the West; it receives and collects its surplus produce, and supplies and distributes the necessaries of life that have to be imported from elsewhere. It is the great market where East and West exchange their staples and manufactures for mutual benefit.

Twenty vast railroad systems with an aggregate length of 85,000 miles have made Chicago their principal terminus; eleven of these give access to all points of the West, and nine connect with the East. Trains from the West bring agricultural produce and cattle and return with groceries, clothing, machinery, etc., those from the East bring industrial produce and take back cereals; and this vast exchange of the produce of an entire continent has lent a commercial importance to Chicago second to that of no other city in the New World except New York. Even New York's prominence is threatened, for year by year Chicago's trade, industries and population increase at such a pace that many predict that within half a century it will be the first among all American cities, perhaps even the foremost among the commercial centres of the world. The most astounding figures relating to the growth of its commercial and industrial importance are published. In 1850 its commerce represented $20,000,000 per annum; in 1860, $100,000,000; in 1870, $385,000,000; in 1880, $930,000,000, and in 1890, exclusive of banking, speculation, etc., the huge sum of $1,420,000,000 was attained.[1] To mention a few more figures, the total receipts of cereals alone rose from 6,928,000 bushels in 1853 to 227,000,000 in 1890, and in 1891 the quantity received presumably exceeded 300,000,000 bushels. The grain trade requires 26 elevators capable of holding 33,000,000 bushels; fourteen odd million head of cattle and hogs, representing a value of $231,000,000 were received in the Union Stock Yards;[2] 2,400 million feet of lumber arrived, and 4,737,000 tons of coal.[3] In addition there is an immense turnover in every conceivable article of merchandise, and the demands of a growing region steadily increase the figures published by the "Board of Trade" and the commercial importance of the town, which has a population of 1,300,000.

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[1] Report of Mr. Hayes Sadler, British Consul in Chicago, to the British Foreign Office, 1892.

[2] Through the kindness of Mr. George T. Williams, the Secretary of the Stock Yards, the following table, showing receipts of live stock for each year from 1880 to 1890 inclusive, is submitted:—

Year.	*Cattle and calves, Number.*	*Hogs, Number.*	*Sheep, Number.*	*Horses, Number.*	*Aggregate value.*
1880	1,382,477	7,059,355	335,810	10,398	$143,057,626
1881	1,547,498	6,474,844	493,624	12,909	183,008,710
1882	1,607,495	5,817,504	620,887	13,856	196,670,221
1883	1,909,167	5,640,625	749,917	15,255	201,252,772
1884	1,870,050	5,351,967	801,630	18,602	187,387,680
1885	1,964,018	6,937,535	1,003,598	19,356	173,598,002
1886	2,015,100	6,718,761	1,008,790	27,599	166,741,754
1887	2,447,867	5,470,852	1,360,862	46,404	176,644,507
1888	2,707,629	4,921,712	1,515,014	55,333	182,202,769
1889	3,146,249	5,998,526	1,832,469	79,926	203,321,924
1890	3,650,805	7,663,828	2,182,667	101,566	231,344,879

[3] These figures are derived from the Chicago Board of Trade Report for 1890.

How rapidly the number of its inhabitants increases may be inferred from the fact that, according to a recent Report of the British Consul, 11,805 new buildings were erected in 1891. Many of these structures have more than twenty storeys. The straight streets extend for miles in every direction, and while the suburbs contain the most exquisite parks and boulevards, 'downtown' boasts of 'office blocks' that have no equal anywhere outside of the Republic. 'Downtown' has become a beehive of business activity comparable only to the City of London. This district lies in the centre of the town, occupying a peninsula formed by the Lake and the Chicago River, both of which are lined with freight yards, wharves, and elevators; for though railroads naturally have the principal share of all traffic, Lake navigation still requires over 10,000 vessels a year, the number in 1890 being 10,547, with a total tonnage of 5,150,000. As has been said in a preceding chapter (p 382) Lake navigation is chiefly utilised for the conveyance of 'low' freights, but the railways, united by a belt line and meeting in the Stock Yards and elsewhere, are by far the most important agencies in transportation. They have their terminals all around downtown.[1]

But although Chicago is the great commercial centre of the West, and in all probability will maintain its position as such, other centres are rapidly springing up. St. Louis, in the South, rivals it in so far as it has established itself as the metropolis of the Southwest; other towns, still tributary to Chicago, are endeavouring to become centres of smaller regions, and without detracting from the importance of Chicago, to which all are tributary, a number of centres are growing up which in course of time will undoubtedly develop into vast cities. There is, for example, St. Paul, situated at the head of Mississippi navigation. This young municipal giant did not exist in 1845, and in 1880 had but little more than 40,000 inhabitants. At present it counts 200,000, is the centre of a vast trade, and its streets 'downtown' and suburban residences may compare with any in the world. There are tall office buildings vieing in height with the 'sky scrapers' of New York or Chicago, and sometimes exceeding them in splendour, like the palatial buildings of the *Globe* and the *Pioneer Press*. The main streets have a wooden pavement, fine and clean, such as no Eastern city can boast of, and are lined with beautiful shops and luxurious hotels. Through these streets electric tramways rush at an alarming rate of speed, with people jumping in and out while they are in motion. In the business district there is a hum and bustle quite out of proportion to the town's size, at least according to European notions. To give some idea of the trade of this young metropolis, I will mention the following statistics relating to 1890 supplied to me by the secretary of the local Chamber of Commerce. Manufactures: output represents $61,720,595, wholesale trade, $122,223,048. Real estate: transfers, 5,608; value of properties dealt in, $20,502,820. Clearings of the 21 local banks, $225,564,897. Assessed value of real estate, $130,768,000 (real value is twice as large). Length of all streets, 492 miles; length of tramways, 99 miles; number of churches, 138. There are waterworks supplying 8,000,000 gallons per diem, 93 schools with 18,000 pupils, and 28 railroads (including tramways) with 18,472 miles of track centreing there—a mileage nearly as great as that of all railways of the United Kingdom. 173,579 freight cars arrived in 1890, and it is claimed that the average number of railway trains entering daily exceeds 150. These few figures will convey some idea of the importance of St. Paul, but the most marvellous thing has yet to be told: at its very door another city has sprung up which surpasses it in all respects. Eight bridges are built across the Mississippi, thus connecting St. Paul with Minneapolis, situated a little farther North on the opposite shore. This town, although but sixteen years old, has 225,000 inhabitants, increasing, it is claimed, at the rate of 30,000 per annum. Its trade in all departments is larger than that of St. Paul, and so are its bank clearings. Minneapolis owes its rapid growth to the immense amount of water power of the Mississippi and Minnehaha rivers, which move the wheels of many industrial establishments, among which flour mills preponderate. In 1890, 6,998,000 barrels of flour were turned out, and in 1891, on account of the abundant crops, 8,000,000. The local receipts of wheat in Minneapolis amounted to over 4,250,000 bushels, which is twice as much as the figure for New York, and more than those of Chicago, Duluth, and St. Louis combined. There are 21 public and private grain elevators with an aggregate capacity of 16,315,000 bushels. The lumber mills cut the stupendous quantity of 343,573,762 feet, equal to 1-12th of the output of all Michigan, hitherto the lumber State *par excellence*. Minneapolis has been able to excel St. Paul, and the young twin cities, giant towns in embryo, lie closely together and constitute the commercial centre of the great Northwest. It has recently been proposed by St. Paul to amalgamate the two municipalities, but the offer was declined by Minneapolis *which hopes to absorb St. Paul.* There exists a remarkable jealousy between the two towns and their respective inhabitants which is not always charming in its expressions. But it causes improvements and growth—

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[1] There are six of these termini, which it may be useful to enumerate, together with the principal railways that use them:—

Illinois Central Depot.—Illinois Central; Michigan Central.

Chicago and Northwestern Depot.—Ch. and N. W. Ry.

Union Depot.—Ch. and Alton; Ch. Burlington and Quincy; Ch., Milw., and St. Paul; Pennsylvania.

Lake Shore Depot.—Lake Shore; Rock Island; Nickel Plate (N. Y., Ch. and St. L. Railroad).

State Street Depot.—Chicago and Erie, Ch. and E. Illinois, Ch. and Grand Trunk, Atchison, Wabash, and Louisville, N. A., and Chicago.

Grand Central Depot.—Wisconsin Central, Chicago, St. Paul and Kansas City, and Baltimore and Ohio.

These stations are used under various agreements, the proprietor company usually receiving rent. An exception is made, however, in the case of the State Street Depot. This belongs to the Chicago and Western Indiana Company, a corporation with a capital of $5,000,000 which is owned in shares of $1,000,000 each by the Erie, Grand Trunk, Wabash, Atchison and Albany lines, which pay a rental and receive dividends.

to a certain extent, however, inflation and over-speculation too.

The country from which these two towns draw their vital powers consists of the States of North Dakota, South Dakota, and Minnesota. The latter produced in 1890 about 40,000,000 bushels of wheat, 24,000,000 bushels of corn, and 55,000,000 bushels of oats; and the two Dakotas, which contain the best wheatlands of the world, 50,000,000 bushels of wheat, 17,000,000 bushels of corn, and 39,000,000 bushels of oats, the crops of 1891 being about 40 per cent. larger on account of their excellence and the increased area under cultivation. But what makes these figures especially significant is that 76 per cent. of the soil of Minnesota and 94 per cent. of that of the Dakotas is not yet under cultivation. When this empire is as thickly settled as Ohio, which it may be in 15 years, its productive capacity will amount to at least 1,000,000,000 bushels of wheat, 400,000,000 bushels of corn, and 1,100,000,000 bushels of oats per annum.

With such possibilities it would require more than a sceptic to disbelieve in the future of these towns. Yet St. Paul and Minneapolis are by no means exceptions. As we shall see below, a city is springing up at the head of Lake Superior under conditions that seem to fully justify the glowing forecasts which are made with regard to its future. Further, Omaha, the metropolis of Nebraska, is a counterpart of St. Paul, Kansas City, the commercial outlet of Kansas, likewise; Sioux City has similar prospects, and so have Des Moines in Iowa, Peoria in Illinois, and a dozen other points. Even Dakota is producing its commercial centre in Bismarck. Nor could it be otherwise. A growing region half-a-million square miles in extent cannot continue to concentrate its entire commerce in one focus: it needs local centres. The rise of such does not necessarily intercept vital powers on their way to the greater centre it increases the supply; and hence the more Omaha and St. Paul, Kansas City and Minneapolis, Duluth and Des Moines grow, the better for Chicago.

The Northwest has been developed entirely by its railroads. Had these not boldly ventured into the wild unsettled country the entire region might still be little better than a wilderness. But the enterprising men who went out to conquer the prairie for the benefit of mankind recognised that there was no possibility of development until the 'fiery buffalo running along the iron snake' had made the isolated plains accessible, and hence they did not hesitate to build the roads without which no settlers would have come. The Chicago and Northwestern was the first to reach the Mississippi, the Rock Island, Burlington, and St. Paul railroads followed. 1865 saw the completion of the first line to the Missouri, and the establishment of the junction with the Union Pacific which was the first road giving unbroken rail connection across the continent. Extensions beyond the Missouri were soon undertaken, and numerous 'feeders' were constructed in Illinois, Iowa, Wisconsin, etc., until gradually there came into existence an extraordinary conglomeration of railroads diverging from Chicago like rays of a huge semi-circle. To-day eleven giant systems with twenty main lines and more than fifty thousand miles of track radiate from the common centre to all points of the West, and give to every point direct communication with Chicago. In some parts, notably in Illinois, Iowa and Wisconsin, the density of the network of rails in proportion to the population by far exceeds that of England and Belgium. Illinois, with its 4,000,000 inhabitants, has (1891) 10,130 miles of railroads, Belgium, with a population of 5,000,000, 5,174 miles; and Belgium has the densest network of all countries. Iowa, Minnesota and Nebraska all have greater mileage than this little kingdom though they contain far less people.

That under these conditions competition has reached the pinnacle of intensity goes without saying. Nine roads or combinations of roads compete for traffic between Chicago and Des Moines, seven between Chicago and Peoria, six between Chicago and Omaha, nine between Chicago and Kansas City, seven between Chicago and St. Paul; and no arguments are required to establish the fact that competition on a scale which would be excessive even in Belgium or England is too great in a half-settled country. There are in the United States, as we have shown before, compensating influences. The railroads have no other agencies of transportation to compete with, and they convey heavy staples over long distances; but in spite of these advantages the Northwestern systems fail to do that amount of business which they should if compared with other roads. Let us take, for instance, the Chicago and Northwestern; it has a much greater mileage than the New York Central, yet does a much smaller business, both passenger and freight; the St. Paul transports less than the Erie, and so on. It is evident that, to offset the smaller volume of business, good rates must be charged unless the capital employed waive its claim to returns; but unfortunately the same agency which causes the supply of transportation to exceed the demand for it also tends to reduce rates. Concerning the latter we need not repeat any of the facts which have been dealt with in preceding pages; but with regard to Northwestern rates in particular it must be remarked that they are better than Eastern and Central, and admit of a higher profit per unit of freight; and this explains why the group, taken as a whole, offers satisfactory returns upon an inflated capitalisation notwithstanding the very small business per mile of road. Indeed, in view of this fact it would appear that the transportation companies in spite of their constant complaints have little reason to be dissatisfied with their tariffs; and all that has been said to the contrary notwithstanding, it seems that rate wars are prevented from becoming ruinous by a keen instinct of self-preservation inherent in even the most reckless 'cutter.' As long as an entire group of railroads offers good if not excellent returns upon the capital employed, the competition it is exposed to cannot possibly be called destructive, no matter how keen it is. There can be no doubt that less competition would be better for the companies, and it is equally certain that the present returns upon capital are not large enough to compensate for past losses; nevertheless, rates as they are to-day cannot be designated otherwise than as satisfactory.

We need not refer here to the rate question in general, to the attitude of State Legislatures, etc., these subjects having been fully discussed in previous chapters; but a few exceptional matters which apply exclusively to the Western groups call for special notice. There is, in the first place, this peculiarity—that Western roads are as a rule constructed before they are wanted, and this naturally reacts upon their success as financial enterprises. Nearly every system contains lines which offer no direct return, roads built in anticipation of traffic that had to be created; these increase capitalisation and in consequence diminish profits. This policy, common to all Northwestern roads, has been frequently criticised, and especially abroad, where people did not understand the peculiar conditions of the Northwest, it has been invariably condemned. There have been a few companies which until recently rarely indulged in extensions, with the result that such systems attained maturity before others, and paid high dividends while others did not, and these few cases were referred to as proof positive of the assertion that the policy of extension is risky if not ruinous. Beyond his dividend the average shareholder does not look, and hence the 'constant extensions' were generally denounced. Nevertheless, they were carried on by the more far-sighted, who had confidence in the future of the country and endeavoured to anticipate its needs in order to attract to their system the largest amount of freight and revenue; in addition they recognised the necessity of protecting the local traffic of their line, present and future. It may be well to state here that a feeder in America and a branch in Europe are two entirely different things. In the Old World, it is as a rule an insane idea to build a branch where there is no business; in the New it is often a necessity. By constructing a feeder a railroad brings new settlers into a country—settlers who would otherwise have gone somewhere else. Now, it is the business of every railway to get the region tributary to its main lines populated as soon as possible, and hence all strive to attain this purpose at the earliest moment; the eager bidding for settlers is, indeed, one of the most pronounced forms of railroad competition in the West. In this respect all companies are competitors though their lines may be separated by hundreds of miles. The Missouri Pacific, for example, is a formidable rival of the Great Northern, though at the nearest point the two roads lie four hundred miles apart. Gould's system endeavours to bring to Kansas the settlers that 'Jim Hill's road' invites to come to Dakota; and for that reason these two roads compete with each other as much as two lines connecting St. Paul with Chicago, and perhaps more.

To return to the construction policy, there can be no doubt that if judiciously carried on it is the only commendable course. A road without branches is a tree without roots, and the soundness of the policy can be proven in more than one way. The most conservative systems, which for some time past have abstained from construction as much as they could—notably the Northwestern and Rock Island—have of late resumed it at a rapid pace; the latter has even deliberately sacrificed its high and regular dividends for the sake of extension, a fact which may be regarded as conclusive evidence of the absolute necessity of such procedure to all those roads which desire to maintain their traffic and their prestige. The Northwestern — it may be well to remind the reader of the fact that it is a Vanderbilt line—which formerly shirked extensions more than other roads, has become very aggressive of late. The St. Paul, on the other hand, has been noted for its determined construction of feeders. Apparently these have never very seriously reduced its income, for the St. Paul makes as good profits as most other companies; it had to suspend the payment of dividends on its common stock, but the cause lay in quite another direction. The construction of 'feeders' has done very little direct harm, while it promises to bear golden fruits as soon as the country is fully developed. The crops of 1891 have gone a long way towards proving the excellence of the 'feeder' policy, for the St. Paul saw an increase of \$4·8 millions against the Chicago and Northwestern of \$3·7 millions, and this difference is entirely attributed to the 'feeders' of the St. Paul. Both lines, as is well known, practically serve the same region, and are subject to those severe fluctuations in the state of trade to which, as one of the principal characteristics of the Northwest, it may be well to draw renewed attention.

Amongst a few other matters of which it is desirable to speak in this chapter are the rise of Duluth and the competition of the Canadian Pacific. It is well known that all Northwestern railroads converge towards Chicago; indeed, until a few years ago they could at no other point meet Eastern connections. But of late Duluth and the 'Soo' lines have commenced to divert traffic from its old route. Duluth lies at the head of Lake Superior, and to realise its geographical advantage we must take a map and draw a straight line from that town to Chicago; with that as a level basis we draw another line, so that it meets the first at perfectly right angles and in the middle. All points West of this second line lie nearer to Duluth than to Chicago, and this area covering nearly one-half of the States it follows that for an immense part of the country Duluth is a nearer outlet than Chicago, the Lakes Superior and Michigan being so situated that a vessel from Duluth can reach Buffalo as soon as one from Chicago, although the distance by land is nearly twice as far. Hence in the case of every point which is closer (by rail), Duluth ought to be the natural outlet for all produce destined for the East and Europe, and this fact has caused the greatest expections to be entertained with regard to the future of the young town, as will be seen from the following public utterances widely circulated by the energetic secretary of the local Chamber of Commerce:—

Thaddeus Stevens, 1861—"At the head of Lake Superior will grow up one of the largest cities, perhaps the largest, on this continent."

Stephen A. Douglas—"A city at the head of Lake Superior has more possibilities for the future than any city on Lake Michigan."

Horace Greely, 1865—"At the head of Lake Superior there will be seen a city rivalling any which, in ages gone by, has enjoyed the commerce of the East"

Jay Cooke, 1890—"By the lakes it is no further from Duluth to Buffalo than from Chicago, yet from Puget Sound to Duluth is 600 miles less than from San Francisco to Chicago. From Japan to the Sound is 800 miles less than from Japan to San Francisco, so in Asiatic traffic there is a saving of 1,400 miles."

Thomas Lowry, 1891—"Commanding the head of Lake Superior, Duluth has a manifest destiny of its own. In the natural course of events West Superior and West Duluth must merge themselves in the older town and form a great city."

Joaquin Miller on Chicago in *New York Independent*, 1889—"Chicago will surpass New York as New York has passed Boston. Finally another and still higher round in the ladder will be reached in Duluth."

Editorial in Boston *Advertiser*, 1888—"Indeed, Duluth's strategical position makes it as near New York and Liverpool as Chicago."

Editorial in *Bradstreet's*, 1889—"It is easy to believe that when even the memory of Proctor Knott shall be forgotten, Duluth will be a ruling power in the land."

Editorial in New York *Evening Post*, 1890—"We think of Duluth as far away from Nebraska, but the distance from Omaha to Duluth is the same as from Omaha to Chicago, and of all the great country north of Omaha, Duluth is the natural outlet."

Editorial in London *Financial Times*, 1890—"Duluth is at present inferior to Chicago only in size and population. It is as near as Chicago to the eastern seaboard, and much nearer the great producing West."

Hon. H. M. Rice, advocating union of St. Paul and Minneapolis, 1888—"We have to consider Duluth. It has iron, coal, wood, and can manufacture as cheap as we can. It is as good a distributing point as we are. Unless we unite, that little giant (Duluth) will take the meat from the oyster and leave us the shell."

Editorial in St. Paul *Globe*, 1891—"Wheat has heretofore commanded 5 cents more per bushel at Duluth than at Minneapolis, because Duluth is in that proportion nearer the seaboard. There is no reason why a farmer should ship wheat to Minneapolis when the same freight charge will carry it to a market 20 per cent. better."

Minneapolis *Tribune*, 1891—"When J. J. Hill obtained control of the Great Northern system he conceived the idea, which has remained with him ever since, that Duluth, at the head of navigation, held the key to the traffic situation, and would eventually become the great commercial center of the Northwest."

These prospects, as we have seen, are entirely based upon the curious fact that Duluth, for all purposes of Lake traffic, is as near to Buffalo as Chicago, although the distance overland is much greater. But the Lake being closed by ice during the severe Northwestern winter, it has been necessary to give the town direct and short railway connections with the East also lest the advantages run to waste. The necessity of conducting railway traffic via Chicago would have kept the young city dependent upon the latter, and place it at a great geographical disadvantage. The distance by rail from Duluth to Chicago amounting to nearly 600 miles, almost every point would have been as near to Chicago as to Duluth. The Duluth, South Shore and Atlantic, however, provides direct rail communication with the East, and runs to Sault Ste. Marie, commonly called "the Soo," where it is united with the Canadian Pacific by a bridge, thus forming a through route to New York and Boston (via the Vanderbilt lines) while the same purpose is arrived at by other connections — for instance, along the Michigan Central, which it meets in St. Ignace, connected by ferry with Mackinaw. In addition, St. Paul too, has obtained direct railway communication with the Soo, the result being that a considerable portion of the winter traffic is now diverted from Chicago by the Soo lines while the summer freight goes to Duluth, which obviously in regard to St. Paul traffic has the advantage of Chicago. From St. Paul to Duluth is 156 miles, and a car-load of wheat (15 tons) at the rate of 0.6 cents per ton-mile, therefore costs $14.40. At the same rate, a carload to Chicago, 415 miles, would cost $36.35, the difference between the two being over $22 in favour of Duluth, which along the Lakes is as near to Buffalo, and along the Soo line as near to the seaboard, as Chicago.

The advantages of Duluth have by no means been recognised with satisfaction by the railways in this section. Every one of them has been built to carry the country's produce to Chicago, and therefore when the movement of part of the crops became directed towards another centre, a condition arose the importance of which cannot be easily imagined. Instead of getting long hauls to Chicago, whence all lines lead, there came comparatively short hauls to Duluth, where no railway had a terminus. And, although with this sentence the case is stated in an epigram, it will require some thought to grasp the immensity of its meaning. To aggravate the situation, both the Duluth, South Shore and Atlantic, and the Minneapolis, St. Paul and Sault Ste. Marie railroads fell into the hands of the aggressive Canadian Pacific, and a new and vigourous competitor entered the field. Were that competitor on an equitable footing with the existing roads the case might not be so bad; five or ten thousand cars of freight are really of little significance in such a region. But, unfortunately, the Canadian Pacific is not bound by the "fourth clause" of the Interstate Commerce Act (p. 46), and the American roads are. The Canadian Pacific may make any through rates it pleases without being compelled to lower its local tariffs, but the other lines cannot (Chap. XXXVII.) Thus, with all odds against them, the railroads could not do much to prevent the rise of Duluth. For a long time they endeavoured to kill the young town by discriminations. Every point was brought as near to Chicago as to Duluth, no matter whether the distance from the former was 500 miles in excess of that from the latter. But the Granger and Interstate Laws soon stopped this, and the natural advantages of Duluth began to assert themselves; the fourth clause even proved beneficial to that town and the Soo line. The new condition of affairs, however, is more unpleasant than serious. Even if some traffic is diverted to Duluth and the Soo, the growing country supplies every year more which has no other natural outlet than Chicago. But Duluth will undoubtedly develop into a second Chicago. The population already numbers 30,000, and 5,000 vessels go to Buffalo and Erie in the course of a year.

In all sections of the Northwest competition is extremely vigourous, but as its extent will be sufficiently illustrated in succeeding chapters, there is no necessity to discuss or describe it at length now. We may, however, mention that in spite of the vigourous competition between main points and Chicago, most lines have parcelled out for themselves their own region, and the sphere of influence of all might be shown by lines running into each other like the colours of a spectrum. A similar illustration would show the traffic centres of the different systems to follow each other in the following sequence: Northern Pacific, St. Paul, Northwestern, Illinois Central (Sioux City line), Rock Island, Wabash, Alton.

Diagram showing the Connections of the leading Northwestern railroads with the principal points in the region.

	Chicago.	*St. Louis.*	*Kansas City.*	*Omaha.*	*Denver.*	*Des Moines.*	*Sioux City.*	*St. Paul-Minneap.*	*Milwaukee.*	*Lake Superior.*
St. Paul	*	—	*	*	—	?	*	*	*	?
Northwestern	*	—	—	*	?	*	*	*	*	*
Burlington	*	*	*	*	*	*	—	*	—	—
Rock Island	*	—	*	*	*	*	—	?	—	—
Wabash	*	*	*	—	—	*	—	—	—	—
Alton	*	*	*	—	—	—	—	—	—	—
Northern Pacific	*	—	—	—	—	—	—	*	*	*
Chicago & Gt. Western	*	—	*	—	—	—	—	*	—	—
Atchison	*	?	*	—	*	—	—	—	—	—
Illinois Central	*	—	—	—	—	—	*	?	—	—
St. Paul & Duluth	—	—	—	—	—	—	—	*	—	*
Totals	10	4	7	4	4	5	3	8	3	4

* = Direct connection.
? = Indirect "
— = No "

As is well known, all these lines carry the produce of the Northwest to Chicago, and the share each has of the traffic in various products is amply illustrated by the subjoined tables taken from the Chicago Board of Trade Report for 1890.

Table showing Apportionment of Grain Traffic to the six principal Granger lines leading to Chicago. (1890).

	Flour. Brls.	*Wheat Bshls.*	*Corn. Bshls.*	*Oats. Bshls.*	*Rye. Bshls.*	*Barley. Bshls.*	*Total No of cars.*
Northwestern.	500,881	1,098,702	4,539,080	6,973,559	493,917	2,848,066	26,447
St. Paul......	592,684	295,449	1,380,781	4,080,419	517,959	1,258,846	15,165
Illinois Cent...	3,540	11,400	5,832,850	7,702,000	79,100	311,900	17,400
Burlington....	1,273,684	690,322	7,396,951	9,206,378	390,133	281,064	31,407
Rock Island...	128,276	169,460	2,435,998	6,492,328	130,922	456,064	12,087
Alton.........	138,798	128,106	2,037,309	1,903,407	17,814	625	6,742
	2,637,863	2,393,441	23,622,969	36,358,091	1,629,845	5,156,605	109,248

Table showing Receipts of Cattle and Lumber in Chicago by routes. (1890).

Route.	*Hogs.*	*Cattle.*	*Sheep.*	*Lumber.*	*Shingles.*
				Million feet.	
Northwestern..............	1,358,479	465,784	437.440	149.741	61,788
Illinois Central...........	837,099	185,803	61,890	62.491	82,154
Rock Island & Pacific....	778,890	302,388	157,028	7,329	46,951
Burlington & Quincy.....	1,942,953	898,231	258 121	19.727	122.967
Alton.....................	352,341	314,970	233,990	14,541	59.756
Chicago & East Illinois..	173,640	46,830	18.473	53,600	73,801
St. Paul..................	924,341	460,768	391,353	75,445	31 659
Wabash....................	470,611	242,134	143,357	14,388	49.158
Chicago...................	298,983	115,357	221 325	44	22,413
Atchison..................	298,559	405,124	96,946	1,163	21,686
Wisconsin Central RR....	23,936	18,786	112,366	31,233	638

The following shows the importance of coal freights to various lines terminating in Chicago. It will be seen that more than a million tons of coal are still received by way of the Lake. The comparative decline of Lake traffic, to which repeated reference has been made, is indicated by another statement with regard to which it should be remembered that since 1870 the tonnage carried by railways has increased almost 800 per cent.

Receipts and Shipments of Coal in Chicago during 1890, by routes:

Received and shipped by	*Received. Tons.*	*Shipped. Tons.*
Lake	1,100,562	71
Canal	——	5,813
Chicago & Northwestern Railroad	26,131	344,521
Illinois Central Railroad	249,371	55,238
Chicago, Rock Island & Pacific Railroad	17,252	23,561
Chicago, Burlington & Quincy Railroad	127,383	159,488
Chicago & Alton Railroad	502,674	17,093
Chicago & Eastern Illinois Railroad	1,111,960	9,249
Chicago, Milwaukee & St. Paul Railroad	——	138
Wabash, St. Louis & Pacific Railroad	129,850	586
Chicago, St. Paul & Kansas City Railroad	——	43,070
Atchison, Topeka & Santa Fe Railroad	23,849	21,974
Wisconsin Central Railroad	183	2,003
Cleveland, Cincinnati, Chicago & St. Louis Railroad	73,632	856
Louisville, New Albany & Chicago Railroad	83,419	2,032
Michigan Central Railroad	97,946	772
Lake Shore & Michigan Southern Railroad	189,978	1,110
Pittsburg, Fort Wayne & Chicago Railroad	27,851	173
Pittsburg, Cincinnati, Chicago & St. Louis Railroad	556,907	9,714
Baltimore & Ohio Railroad	150,518	614
Chicago & Grand Trunk Railroad	13,471	3,911
New York, Chicago & St. Louis Railroad	55,624	18
Chicago & Erie Railroad	198,814	23,014
Totals	4,737,384	724,019

Lake Traffic of Chicago.

Years.	*Arrivals.*		*Years.*	*Clearances.*	
	Vessels	*Tonnage.*		*Vessels.*	*Tonnage*
1870	12,739	3,049,265	1870	12,433	2,983 942
1871	12 320	3 096,101	1871	12,312	3,082 235
1872	12,824	3.059,752	1872	12 531	3,017,790
1873	11,856	3,225,911	1873	11,876	3,338,803
1874	10,827	3,195,633	1874	10,720	3,134,078
1875	10,488	3.122,004	1875	10.607	3,157 051
1876	9,621	3,089 072	1876	9,628	3,078,264
1877	10.233	3,274,332	1877	10,284	3,311,083
1878	10,490	3,608,534	1878	10.494	3 631,139
1879	11,859	3,887,095	1879	12,014	3 870,300
1880	13,218	4,616.969	1880	13,302	4,537,382
1881	13,048	4,533 558	1881	12 957	4.228,689
1882	13,351	4,849,950	1882	13,626	4,904,999
1883	11,967	3 812,464	1883	12,015	3,980,873
1884	11,354	3,756,973	1884	11,472	3,751,723
1885	10,744	3 653.936	1885	10,798	3,652,288
1886	11,157	3,926.318	1886	11,215	3,950,762
1887	11,950	4,328,292	1887	12.023	4 421.560
1888	10,989	4.393,768	1888	11,106	4.496.898
1889	10,804	5 102.790	1889	10,984	5,155 041
1890	10,507	5,138.253	1890	10,547	5,150,665

CHAPTER XXXI.

THE CHICAGO, MILWAUKEE AND ST. PAUL RAILROAD.

This company was the first to establish direct rail connection between Chicago and St. Paul. In 1864, when the boomers themselves felt not quite sure as to whether Chicago was to be the capital of the Northwest or Milwaukee; when Minnesota was still a territory, St. Paul an obscure hamlet, and Minneapolis altogether unknown; in short, when the 'great Northwest' as we know it to-day was *terra incognita* even to most Americans, a few shrewd capitalists united a number of local lines around Milwaukee in Wisconsin and named the consolidated system the Milwaukee and St. Paul RR. The aim of the company was to extend the road into Minnesota and the Dakotas, and to develop this region, then a wilderness almost entirely devoid of inhabitants other than red men.

Almost from the moment it came into being the young system grew in importance. The purchase of the St. Paul and Chicago, effected soon after the consolidation, gave it a through line between St. Paul and Milwaukee. In 1874 the extension from Milwaukee to Chicago completed a continuous route between Chicago, Milwaukee and St. Paul, and the companies owning the three sections were amalgamated, the new corporation receiving its present name. Soon afterwards the Western Union Railroad Company, which owned lines in Illinois and Iowa, was obtained control of, and leased for 999 years in 1879; and in the meantime many extensions and feeders had been built. By 1882, when Chicago had long established itself as metropolis of the West, a direct line terminating in Council Bluffs on the Missouri river (opposite Omaha) was completed, this road increasing the length of the system to 4,296 miles. Since then extension has continued at a rapid pace, and to-day the St. Paul is the largest Northwestern system but one, embracing 6,198 miles of road directly connecting Kansas City, Omaha, Sioux City, Chamberlain, Fargo, St. Paul, Minneapolis and Milwaukee with Chicago, and pouring the produce of an empire 272,000 square miles in extent into the Western metropolis. In Chicago two main lines converge; firstly, that from Council Bluffs, connecting with the Union Pacific and other roads for the Far West as well as with Kansas City, and secondly the old line from St. Paul and Milwaukee, which has three tributaries running almost parallel through Iowa, Minnesota and Dakota and extending from the Lake to the Missouri and beyond. In addition to these four main lines with a Western direction there is one which follows the Mississippi from the twin cities to Clinton, Ia., and another connecting Minneapolis and St. Paul with Rock Island, Ill.; at the same time scores of small "feeders" penetrate into the adjacent districts.

The following is a summary of the various lines of which the system is composed (June, 1892.)

Lines in Illinois	318·08	miles.
„ „ Wisconsin	1,374·66	„
„ „ Iowa	1,553·27	„
„ „ Minnesota	1,120·09	„
„ „ North Dakota	118·21	„
„ „ South Dakota	1,096·82	„
„ „ Missouri	140·27	„
Total length of main track owned	5,721·40	„
Operated under trackage agreement	45·00	„
Milwaukee and Northern (controlled but not included in earnings)	362·00	„
Total operated	6,128·40	„

The original road from Chicago to St. Paul has always been the main line; no matter what changes have been wrought since the days when a journey from Chicago to St. Paul occupied 36 hours, in this respect there has been no alteration. But new lines were added, and both from La Crosse and St. Paul extensions were boldly projected and constructed in straight lines running for hundreds of miles into the Northwestern country. Settlers went Westward, following the vague trails intersecting the broad prairie; and the St. Paul either followed in their wake or led the way, eager to carry to the Lake—first the timber of which the virgin soil was cleared, then the grain and cattle from the new farms, and always bent upon developing the country adjacent and tributary to its lines. As years went by the region gained in population and wealth, and despite a growing competition the agricultural produce collected by countless feeders was carried to the main line in ever-increasing quantities.[1]

To give within the scope of the few pages at our disposal a full description of the country tributary to the 'St. Paul' system would be as difficult as to describe Great Britain and all its features and resources without exceeding the same limited compass; but, speaking broadly, it may be said that the roads traverse the fertile valley between the Missouri and the Lake, which over the greater part of its area consists of flat low lands with a fine natural irrigation. Occasionally, especially in Wisconsin, Minnesota and Dakota, a rolling country with hills and valleys alternating is covered here with farms, grass and grain lands, yonder with fine timber, which is shipped in ever-increasing quantities. In addition the Northeastern part abounds with coal and ores.

From the point of view of a tourist the vast stretch of country traversed by the St. Paul and belonging to seven different States, each of which is larger than England, is indifferent, because it is practically everywhere the same. It is flat and featureless, though fertile prairie, or undulating country, either farmland or forest. The old main line to St. Paul and Minneapolis has some attractive features, especially the portion between La Crosse and St. Paul, and the country between the Mississippi and Lake Michigan, where the lines of the system are most numerous, is not without charms. Next in importance ranks the main line to Omaha, in Nebraska, a town with a population of 110,000 and the outlet of a State with an immense productive capacity. This line runs North of the famous blue grass region of Iowa, and connects with several roads to Denver. It has a branch to Rock Island, going South just before we reach the fine bridge across the Mississippi near Savannah, Ill., and a hundred miles further the straight line to Kansas City, the commercial centre of Western Missouri and Kansas, branches off. The bulk of traffic is borne by these two main lines, and the principal aim of the St. Paul, therefore, is to carry freight from Kansas City, Omaha, St. Paul and the Northwest generally to Chicago. The other towns are as yet in their youth. But St. Paul, Omaha, and Kansas City have grown up within a few years, and the development of many other cities connected by the system is only a question of time. Sioux City and Chamberlain are rapidly growing in importance, and the same may be said even of Scranton on the Missouri, a hundred miles north of the latter town.

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[1] The volume of freight has doubled since 1883, although mileage since then has grown barely 25 per cent.

In the preceding chapter we spoke of the prospects of the Northwest, its immense growth, its enormous yield, and its amazing productive capacity. Only 24 per cent. of the Wisconsin soil is under cultivation, only 4 per cent. of the Dakotas, and but 10 per cent. of Nebraska, and the entire country has but entered upon its era of growth. A railway being always in many respects like the country it traverses, it is almost superfluous to state that the St. Paul, though already one of the greatest systems, has not yet attained full maturity, and is therefore destined to further expand with the country whose development it promoted to a very marked extent. Year by year these States will add to their wealth and population, and year by year the St. Paul will have to add new lines to its system because the needs of the country are constantly expanding. Business will require new roads, and the St. Paul and other Northwestern systems will have, and will probably be pleased, to build them. I purposely mention this prospect for the reason that now and then objections are raised against these systems being constantly extended. Instead of giving rise to complaints these extensions should, as long as they are carried out wisely, be accepted as necessary; and as there is no more certain proof of the growth of an American region than an extension of its railway connections, the latter may even be regarded as a very favourable sign. Moreover, extensions show that the management is on the alert and ready to protect and expand its local traffic. The great roads running in parallel lines to the Mississippi, although 50 to 100 miles apart from each other, while at present little more than feeders of the main stem, really constitute the frame of the future system. In these Western regions one finds few farms at a distance of more than a dozen miles from a railway, for owing to the absence of ordinary roadways they must be within easy reach of what are now the long, straight feeders. But when the density of population increases these branches will develop into main lines, and as such they will call for new feeders leading to the adjacent unsettled parts. From this it follows that the era of extension has by no means passed yet, and it is safe to conclude that the growth of this and of most, if not all, other Western systems will go on regularly, in this instance, say, at the average rate of about 200 miles a year. On the whole it may be said that money expended upon judicious extensions is money well spent. Feeders are valuable because they exhance the earning power of the main line, and necessary because they protect traffic from the encroachments of rival systems. Hence the only sound policy of American railways consists in the pursuit of constant judicious extensions and betterments. It is true that the effect of this procedure is to delay the returns upon capital, but it must be borne in mind that the Northwestern systems are still in their teens, and that neither they nor the districts they serve have attained even that comparative maturity to be observed, say, in Ohio or Indiana. To perfect them will still require large outlays, but that these will bear fruit has already been sufficiently demonstrated. It would be difficult to find better proof of the desirability of extension and amelioration than the fiscal results of the St. Paul during 1891-92, when gross earnings amounted to $4·7 millions more than in 1890-91—an increase not witnessed on any other system. The bearing which extensions have upon the affairs of this road is abundantly demonstrated by the traffic statistics on p. 471.

The condition of the property is very satisfactory as far as the main lines are concerned, the roadbed being uniformly good, provided with 67lb. steel rails (about the heaviest type commonly used in the West) and equal to the requirements of the heaviest traffic. The stations, although mostly wooden and of Western appearance, are also in good condition, and terminal accommodation at all main points is excellent. In Chicago the company uses the Union depot, together with the Burlington and Pennsylvania lines; in St. Paul, Council Bluffs, Minneapolis, etc., it has equally efficient accommodations, both for freight and passengers. Some of the less important feeders are considerably inferior to the main lines, and are, for instance, still provided with iron rails of light weight. But traffic being less heavy on these branches, there is no necessity for the roadbed to be in prime condition, and betterments can be introduced by degrees. Bridges, embankments and trestles are equally satisfactory, though still improved as occasion requires. As regards rolling-stock, the better type of cars prevails, both for passenger and freight service. The former agreement with Pullman having been discontinued, the company now runs its own sleepers, 'parlor' and dining cars, and in the latter provides meals for 75 cents which serve as a very efficient advertisement and would do credit to the best restaurant. The company owns 827 locomotives, 983 passenger cars, and about 27,000 freight cars, 19,000 of which are so-called "box" cars. Most of these are built at the company's yards in Milwaukee, which can turn out 3,000 freight cars per annum at a price considerably below that which would have to be paid if they were bought of other builders. In 1891 these extensive establishments in West Milwaukee were working at full pressure, and although their output reaches quite a respectable total the company is not likely to have too many cars in years with good harvests.

The financial history of the Chicago, Milwaukee and St. Paul has been devoid of any stirring events. It has been alleged that during the sixties and seventies the company suffered from those malpractices which were common enough then, but as far as I know these accusations have never been substantiated, and it seems probable that they arise from the fact that the company has a rather heavy capital. At the date of issue of the most recent report the share capital and funded debt reached a total of $199,587,161, or a little less than $35,000 per mile, and although President Miller's assertion that the road could not be duplicated at its present capitalisation[1] is no doubt absolutely true, the fact remains that its capital considerably exceeds its cost. This, however, was not the fault of any of its managers, the reason being that this company, like most others, had to borrow money at high rates. The earlier issues of bonds, though bearing a heavy interest, rarely fetched above 85 when they were offered to the investing public, and during the critical years culminating in 1873 no better price than 60 or at most 70 per cent. could be realised for seven per cent. bonds; afterwards, however, the company's credit improved so much that by 1882 several issues bearing but five per cent. were placed at 96 and 97 per cent., and at present the credit of some of the company's best bonds is estimated in London at 3¾ per cent. As a consequence of this amelioration the company was enabled in 1889 to commence issuing $150,000,000 4 per cent. general mortgage gold bonds which were offered and taken at 89¼ per centum. Unfortunately, however, this great improvement in the company's credit will be of little benefit to the holder of common stock, because many years will elapse before the four per cent. bonds can replace other descriptions; nearly all old seven per cent. bonds are convertible into preferred stock, and it is very likely that all holders will avail themselves of this privilege before their securities mature. Net revenue in 1891-92 amounted to $11,705,858, and $7,161,736 were required for interest and rentals, leaving $4,544,122 above fixed charges. This sum not only sufficed for a full dividend on the preferred stock—which could not be paid in full in 1887, 1888 and 1889—but left the huge surplus of $4,544,122, as a result whereof the company was in a position to declare a semi-annual devidend of 2 p.c. on its common stock in September, 1892, this being the first distribution made among holders of ordinary shares since 1889. The remarkable improvement in the company's finances that has been witnessed since 1887/8 is almost without a precedent. As the subjoined tables show, that period has seen no noteworthy addition to the company's mileage, and its capital has remained well-nigh stationary; but its freight traffic increased has by more than one-third, and rates being better now than they were four years ago the revenue from that source alone has risen from $17·0 millons to $23·2 millons, and its present available revenue exceeds that of 1887-8 by not less than 4·2 millions. It need hardly be said that this amazing change was brought about chiefly by the bounteous crops of 1891; but it is to an almost equal extent due to the fact that the company's feeders are at last beginning to bear fruit. These feeders, like most youthful branches, were a drag on the main stem, and while competition brought down rates to their lowest level, operating expenditure ran higher than ever, reaching the extraordinary percentage of 69·88 p.c. in 1887-88. Since then the average rate has risen, and improvements having been effected everywhere the operating expenditure was scaled down to 64·48 p.c., the result being an increase in net revenue amounting to almost 60 p.c. for four years. The crops of 1892 being exceptionally good, the company will perhaps see its earnings decline; on the other hand the area of cultivated soil tributary to its lines goes on increasing, and if the management wisely abstains from building too many feeders the net result will remain satisfactory. For 1891-92 it represented 5·85 p.c. of the total capital employed. The disappearance of a large floating debt contracted in 1890-91 and amounting to $3,500,000 is one of the features of the accounts for 1890-91, and, moreover, the fact should not be lost sight of that the company received no dividend from the Milwaukee and Northern, although this was earned; as the 4 p.c. dividend of 1890-91 received by the St. Paul on its M. & N. stock amounted to $246,314, the increase of its revenue is practically tantamount to a quarter of a million more than shown by the accounts. The dividend was not paid because of the intended amalgamation of the two companies.

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[1] Annual Report, 1891, p. 16.

Subjoined are the usual comparative statements relating to traffic, revenue, etc., for a number of years:—

Table showing Mileage, Passenger and Freight Movement on the Chicago, Milwaukee and St. Paul RR. for eighteen years ending 1891.

Year.	Average mileage operated.	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue, — $
1877	1,408	55 9	3.21	1,780,169	271·5	2.08	5,627,906
1878	1,539	65 5	3 09	2,011,496	321·8	1.80	5,750,497
1879	1,996	78 1	2.83	2,273,701	401·5	1.72	6,850,755
1880	2,923	111·2	2.84	3,199,051	504·8	1.76	8,834,227
1881	3,830	137 9	2.86	3,938,989	697 3	1.70	11,884,796
1882	4,296	200·7	2.58	5,179,078	945 2	1.48	14,002,335
1883	4,549	235 6	2 52	5,927,668	1,176·6	1.39	16,365,354
1884	4,780	225·9	2.55	5,768,849	1,247·7	1.29	16,128,964
1885	4,862	214 5	2.56	5,499,737	1,337 7	1.28	17,101,742
1886	4,977	234·4	2 42	5,661,690	1,486·5	1.17	17,358,294
1887	5,355	230 4	2.54	5,849,261	1,629·3	1 09	17,742,142
1888	5,665	254·6	2 37	6,031,091	1,690·2	1.01	16,998,118
1889	5,674	258·0	2.42	6,241,090	1,620·9	1.06	17,163,721
1890	5,657	256 4	2.33	5,981,639	1,842·7	0.99	18,337,009
1891	5,710	262 5	2 39	6,277,774	1,895·6	0.03	19,012,159
1892	5,721	270 8	2 15	6,639 137	2,206·0	0.26	23,241,421

Share Capital, June 30th, 1892.

	$	$
Total preferred stock at date of last report.	....	22,198,900
Issued during the year:		
In exchange for 2,088 Milw., St. Paul bonds...	2,088,000	
" " " 4 Prairie du Chien "	4,000	
" " " 72 Ia. & Minn. div. "	72,000	
" " " 1 Ia. & Dak "	1,000	
" " " 1 Consol. mortgage "	1,000	
		2,166,000
Total preferred stock, June 30, 1892.......		24,364,900
Amount of common stock issued June 30, 1891 (none issued in 1892).		46,027,261
Total capital stock, June 30, 1892..........		70,392,161
Increase for the year: $2,169,000 in 7 p.c. preferred stock.		

The funded debt, of which the usual detailed statement is given below, amounted on June 30th, *1891*, to $129,797,000. During the year $2,511,000 were cancelled, and $1,899,000 new 4 p.c. general mortgage bonds were issued; the net decrease, therefore, was $612,000.

Owing to continuous extensions funded debt and share capital have increased from year to year. In 1877 the funded debt amounted to $29,954,000, the mileage being 1,403. In 1892, with 5,721 miles, it stood at $129,195,000, summarised below.

Funded Debt, June 30th, 1891.

Description of Bonds.	*Time.*		*Amount outstand.* $	*In'erest.*		
	Date of issue.	*When due.*		*Rate per cent.*	*When payable.*	*Interest accrued in 1891.* $
a Milw. & St. Paul R'y..	1863	1893	2,535,000	7	† Jan. & July.	221,655
a Iowa & Minn. Div.....	1867	1897	3,126,000	7	† „ „	221,025
Prairie du Ch'n „ 1st..	1868	1898	3,674,000	8	† Feb. & Aug.	293,920
a Prairie du Ch'n „ 2nd.	1868	1898	1,235,000	7·3	† „ „	90,325
a Chic. & Milw. „	1873	1903	2,393,000	7	† Jan. & July.	167,510
*a**St. P. (or Riv.) „	1872	1902	2,305,000	7	† „ „	231,350
*a**St. P. (or Riv.) „ Sterl	1872	1902	499,500	7	† „ „	34.965
a Iowa & Dakota „	1869	1899	54,0000	7	† „ „	37,835
a Hast's & Dak. „	1872	1902	89,000	7	† „ „	6 230
a Consolidated.........	1875	1905	11,485,000	7	† „ „	803,285
*a**Terminal.............	1884	1914	4,748,000	5	„ „	237.400
a Iowa & Dak. Div. Ext.	1878		3,505,000	7	„ „	245,350
*Hast's & Dak. Div. Ext	1880	1910	5,680,000	7	„ „	397,600
Hast's & Dak. Div. Ext	1880	1910	990,000	5	„ „	49,500
*Southwestern Div....	1879	1909	4,000,000	6	„ „	240,000
*La Crosse & Dav. Div.	1879	1919	2,500,000	5	„ „	125,000
Chic. and Pacific „	1880	1910	3,000,000	6	„ „	180,000
*Chic. & Pacific West „	1881	1921	25,340,000	5	„ „	1,267,000
Southern Minn. „	1880	1910	7,432,000	6	„ „	445,800
Mineral Point „	1880	1910	2,840,000	5	„ „	142,000
Dubuque „	1880	1920	6,565,000	6	„ „	393,360
Wisconsin Valley „	1880	1920	2,386,000	6	„ „	119,040
*Wisconsin & Minn. „	1881	1921	4,755,000	5	„ „	37,750
*Chic. & Lake Sup. „	1881	1921	1,360,000	5	„ „	68,000
*Chic. & Miss. Riv. „	1886	1926	3,083,000	5	„ „	154,150
Dak. & Great So. R'y	1886	1916	2 856,000	5	„ „	142,500
Fargo & Southern R'y	1883	1924	1,250,000	6	„ „	75,000
Minnesota Central RR	1864	1894	123,000	7	„ „	8,610
Wisconsin Valley RR.	1879	1909	1,106,500	7	„ „	77,455
Fargo & South. R'y, Inc.	1885	1895	200,000	6	Apr. & Oct.	11,010
Real Estate..........	1884	1894	225,000	5	Mar. & Sept.	11,300
b Inc Sink. Fund Conv..	1886	1916	1,760,000	5	Jan. & July.	92,000
*General Mortgage...	1889	1989	14,629,000	4	„ „	301,131
Milw. & West. (mat'd. and p'd)............	....	....	....	....	....	7,525
Total..............	....	....	129,195,000	....	....	7,161,736

* = Quoted in London. *a* = Convertible into pref. stock. *b* = Convertible into common stock

EARNINGS AND EXPENSES.

	1891-92.	1890-91.	1889-90.	1888-89.
	$	$	$	$
Earnings from—				
Passengers	6,639,137	6,277,774	5,981,639	6,241,091
Freight	23,241,421	19,012,159	18,337,009	17,163 721
Mail, express, etc.	2,402,951	2,214,291	2,087,059	2,017,747
Total earnings	32,283,508	27,504,224	26.405,707	25,422,559
Expenses for—				
Maintenance of way	4,235,514	3,763,983	3,119,714	3,121,841
Mainten. of cars and engines	3,884,373	2,787,924	2,639,849	2,502,118
Transportation	11,515,811	10,714.471	10,388,382	9,943,493
Taxes	933,148	857,906	830,046	803,517
Miscellaneous	246,158	242.214	195,106	177,415
Total expenses	20,815.004	18,366 500	17,173,097	16 548 384
Net earnings	11,468,504	9,137,724	9,232.610	8,874,175
Percent. of op. exp. to earns.	64·48	66·78	65 04	65 09

REVENUE AND EXPENDITURE.

	1891-92.	1890-91.	1889-90.	1888-89.
	$	$	$	$
Revenue—				
Net earnings	11,468 504	9.137,724	9,232,610	8,874,175
Other income	237 354	418,425 [1]	220,025	225,778
Total net income	11,705,858	9,556,149	9,452,635	9,099,953
Expenditure—				
Interest on debt.	7,161,736	7,237,252	7,214,155	7,054,471
Dividends on pref. stock	1,572,612	1 532,152	1,296.828	972,490
Rate of dividends	(7)	(7)	(6)	(4½)
Interest and exchange	112,414	84,217	——	——
Total disbursements.	8,847,762	8.853,621	8,510,983	8.026.961
Surplus.	2,859,096	702,528	941,652	1,072,992

GENERAL BALANCE, JUNE 30.

	1892.	1891.	1890.	1889.
	$	$	$	$
Assets—				
Road and equipment.	191,544 853	189,624,728	185,631,301	183,889,871
Bonds and stocks owned	7,419,241	7,337,241	1,233,388	1,197 965
Due from agents, etc.	232,972	256,934	214,957	195.254
Due from U. S. Government.	256,160	276,251	247,858	316,003
Materials and fuel.	2,385,002	2,313.223	2,407,369	1,932,491
Bills receivable	——	——	——	12,200
Bonds of company on hand.	5,996,000	5,692.000	2,178,000	738,000
Stock of company on hand.	4,770	4,821	——	——
Cash.	4,043.530	3,493,760	2,961,930	2,936,609
Miscellaneous	——	2.021,463	1,449.498	1.346,612
Total assets	211,882,528	211,020,441	196,324,301	192,565,005
Liabilities—				
Stock, common	46,027.261	46,027,261	39,868.961	39,868,961
Stock, preferred	24 364,900	22,198,900	21,839,900	21,610,900
Funded debt.	129.195 000	129,797,000	125,693,000	123,765,000
Pay-rolls, vouchers, etc	2,722,549	2,786,778	2,880,278	2,183,076
Interest accrued, not due	3.486,339	3,546,775	3,529,492	3,478,497
Loans and bills payable.	——	3,477,228	——	——
Miscellaneous	217.269	91,846	93,156	119 889
Income account	5,869,269	3,094,853	2,419.514	1 538,682
Total liabilities.	211,882,528	211,020,441	196,324,301	192,565,005

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[1] Includes 4 p.c. dividend on Milwaukee and Northern RR. shares to the amount of $246,314. This was not paid in 1892.

The Chicago, Milwaukee and St. Paul being a Granger, it follows that its revenue is largely dependent upon agriculture; the subjoined table shows that 30 per cent. of its freight consists of agricultural produce, while the condition of farming determines the volume of well-nigh every article of merchandise the company carries. Lumber is also a very important item, and the following table strikingly reflects the influence of crops upon earnings, inasmuch as the increase of tonnage carried in 1892, which was a very good year, was 23 per cent. as compared with 1890.

Table showing Mutual Proportion of Commodities Transported by the Ch.., Milw. and St. Paul RR.

Commodities.	1892.		1891.	1890.
	Per Cent.	*Tons.*	*Tons.*	*Tons.*
Flour	4·2	485,350	417,006	335,846
Mill feed	0 9	106,540	91.538	73,721
Wheat	10·5	1,219,383	708.162	827,517
Rye	0·7	83.675	61.562	65.612
Barley	5·0	587,734	426.042	330,183
Oats	3·5	400,382	410,647	308,031
Corn	2·6	301,695	335.822	391,314
Flax seed	2·0	234,890	161.796	90,339
Hay	1·1	131,793	108.479	95.953
Dairy products	0·5	53.654	56,065	52,571
Other agricultural products.	1·0	117,773	121,786	103,046
Provisions	2·0	229,966	223,168	223,431
Salt	0·5	66,211	63,051	75,821
Lime, cement and plaster . .	1·9	215,967	177,260	158,216
Brick and stone	4·2	482,093	496,693	377,583
Iron and steel	2·3	267,655	233,230	243,215
Manuf'r and agricult'l imp. .	4·0	457,449	342,869	259,579
Coal	11·8	1,367,646	1,141.555	1,007,060
Live stock	1·7	654,412	674,559	643.122
Lumber	16·4	1,894, 91	1,824.786	1,340,252
Merchandise	7·3	841,341	822 240	850,492
Ice	2·2	252.774	389,190	———
Miscellaneous	9·7	1.112.312	1,107.529	1,440.068
Totals	100.0	11,568,930	10,397.035	9,292,992

Transportation Statistics for the years ending June 30th, 1890, 1891 and 1892.

	1892.	1891.	1890.
Miles run by passenger trains.	7,405,805	7,300,932	7,131,071
Miles run by freight trains	14,172,436	11,866,637	11,655 518
Miles run by mixed trains.	880,058	817,748	794,585
Miles run by revenue trains . . .	22.458,229	19.985,317	19,581,174
Miles run by switching trains.	6,065,466	4,979,318	4.599,181
Miles run by construction and other trains	733 924	833,227	794.277
Total miles run by trains	28,257,689	25,797,862	24,974,632
Number of passengers carried.	8,026,606	7,919,229	7,505,946
Number of pass. carried one mile. . . .	270,817,683	262,551,100	256'389,345
Average miles each pass. was carried. .	33·74	33·15	34·16
Revenue per passenger per mile	2·452 cts.	2.391 cts.	2.333 cts.
Rev. from pass. per train-mile run . . .	87·06 cts.	83.64 cts.	81.61 cts.
Number of tons of freight carried. . . .	11,568,930	10,397,035	9,292,992
Number of tons of fr't carried one mile	2,265,993,968	1,895,635,111	1,842,789,845
Average miles each ton was carried . .	195·87	182·32	198·30
Revenue per ton per mile.	1,026 cts.	1.003 cts.	0.995 cts.
Revenue from freight per train-mile run	$1.5669	$1.5234	$14967
Repairs of locomotives p. rev. tr.-mile.	7.11 cts.	5.89 cts.	5.86 cts.
Repairs of cars " "	9 73 cts.	7.60 cts.	7.02 cts.
Station service " "	12.68 cts.	13.76 cts.	13.26 cts.
Train service " "	7.08 cts.	7.28 cts.	7.26 cts.
Locomotive service " "	8.80 cts.	9.20 cts.	9.07 cts.
Train and station supplies " "	2.53 cts	2.52 cts.	2.37 cts.
Fuel " "	10.17 cts.	10.21 cts.	10.20 cts.
Oil and waste " "	0.75 cts.	.72 cts.	64 cts.
All other expenses " "	33.68 cts.	34.72 cts.	32.02 cts.
Total operating expenses " "	92.68 cts.	91.90 cts.	87.70 cts.
Percentage of exp. (incl. taxes) to earns. .	64·48 p.c.	66·78 p.c.	65 04 p.c.

The only line controlled and operated separately is the *Milwaukee and Northern RR.*, which was added to the system in 1890, the St. Paul exchanging the stock of this company for its own common shares, share for share. This line is valuable chiefly because it connects with the timber and mining region in the Michigan Peninsula, while in the near future it will be extended to Lake Superior. The heavy increase in the amount of lumber carried since 1890 is mainly accounted for by this acquisition. The income account for 1890/91 and 1891/92 is as below:—

	1891-92 $	1890-91 $
Gross earnings	1,765 367	1,630,441.67
Less operating expenses (including taxes)	1,122,462	1,010,639.09
Net earnings	642,904	$619,802.58
Income from other sources	——	627.80
Net revenue	642,904	$620,430.38
Interest accrued during the year on funded debt	369,679	$369,480.00
Dividend from net earnings of fiscal year ending June 30th, 1891; 4 p.c. on $6,158,250 of stock	——	246,330 00
	369,679	615,810.00
Balance	278,225	$4,620.38

The dividend paid figures as revenue in the accounts of the St. Paul, which owns all stock. In 1891-92 no dividend was paid, the amalgamation with the St. Paul being under contemplation.

Among the connections of the St. Paul the principal are the Northern Pacific in St. Paul (for the Far West, the Pacific Coast and Canada) the Pennsylvania in Chicago, (for the East) and the Atchison in Kansas City (for the Southwest).

The board of directors of the Chicago, Milwaukee and St. Paul RR. includes Mr. Phil. Armour, the famous Chicago 'packer,' Mr. Aug. Belmont, the American representative of Messrs. Rothschild, Mr. William Rockefeller, son of the founder of the Standard Oil Company, and others. Mr. Roswell Miller has been president since the death of his famous predecessor, Mr. Alexander Mitchell, which occurred in 1887. Mr. Miller was then general manager; he commenced his career some thirty years ago in a very humble position in the offices of the Cairo and Vincennes RR., but before he had passed through middle age his remarkable abilities secured for him one of the most distinguished and lucrative positions in the country.

The St. Paul has paid the following dividends: on preferred shares: 1879–1887, 7 p.c.; 1888, 6; 1889, 4½, since 7 p.c. On common stock; 1879, 2½; 1880–1884, 7; 1885, 4; 1886–87, 5; since, *nil*, until Oct. 1892, when 2 p.c. was paid.

CHAPTER XXXII.

THE CHICAGO AND NORTHWESTERN SYSTEM.

The geographical situation of the Chicago and Northwestern system is in almost every respect identical with that of the St. Paul. It extends a little more North, and one of its lines penetrates considerably further into the Far West than those of its great rival;[1] on the other hand it has fewer branches in Iowa and Minnesota, and no lines to Rock Island and Kansas City; but in spite of these differences both systems are very similarly situated, the principal purpose of each being to connect Northwestern points with Chicago.

The following is a summary of the lines now constituting the Chicago and Northwestern *system*:—

Chicago and Northwestern Railway proper	4,273	miles.
Chicago, St. Paul, Minneapolis & Omaha Ry. . . .	1,507	„
Fremont, Elkhorn & Missouri Valley Ry.	1,280	„
Milwaukee, Lake Shore & Western Ry.	788	„
Sioux City and Pacific Ry.	107	„
Total length of system	7,955	„

Of these railways only the Chicago and Northwestern proper is directly operated by the company, and the subjoined tables therefore only relate to this system. The Chicago, St. Paul, Minneapolis and Omaha Railway has been controlled since November, 1882, through ownership of stock, the Fremont, Elkhorn and Missouri Valley and Sioux City and Pacific both since 1884, and control of the Milwaukee, Lake Shore and Western was not obtained until December, 1891. The five railways are operated as an absolutely homogeneous system connecting Omaha, Sioux City, St. Paul, Minneapolis, Duluth, Madison, Milwaukee and numerous other points in Illinois, Wisconsin, Michigan, Minnesota, South Dakota and Nebraska with Chicago, where three main lines converge. In addition there is a direct route from the twin cities to Omaha. All lines between main points are very direct ones, in excellent condition, and favourably situated. As is well known, the system is controlled by the Vanderbilt group, and the Lake Shore, Michigan Central and 'Nickel Plate' railways give it better connections with the East than fall to the lot of any other road in the Northwest. In Omaha the main line meets the Union Pacific, a through passenger service with the Pacific coast without change of cars being maintained along these two lines and the Central Pacific.

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[1] The St. Paul now also intends to extend its lines to Deadwood in the Black Hills, a point reached by the Elkhorn road of the Ch. & N. W.

It is not necessary to describe any of the routes of which the system is composed or any of the points touched, detail pertaining to these matters being given in the two preceding chapters. It may, however, be mentioned that the main lines between Chicago and Omaha and Chicago and St. Paul—Minneapolis are the most important parts of the system, the former being double tracked over its entire length. All roads are well graded and ballasted, and most of them provided with steel rails. The company has its own passenger and freight termini in Chicago, the size of which may be inferred from the fact that while I was in Chicago, in November, 1891, Mr. W. H. Newman, vice-president of the company, told me that there were 3,000 loaded grain cars standing in the company's yards which could not be forwarded to the East as quickly as the freight department thought desirable; this was, of course, in the height of the season.

The Chicago and Northwestern Railway Co. practically originated as early as 1836, when the Galena and Chicago

Union RR. was chartered; construction, however, did not commenced until 1847, and three years had lapsed before the section from Chicago to Elgin was completed. In 1848 the sponsors of this railway obtained a charter for another road to run from Chicago to Fond du Lac on Green Bay—an arm of Lake Michigan—the company which was to build it being named the Chicago, Milwaukee and Fond du Lac Railway Company. This line was completed in 1859, the company having a couple of years previously absorbed two others which had been endowed with considerable land grants by the State of Wisconsin. Unfortunately, however, the corporation succumbed under the strain which the crisis of 1857 placed upon the finances of most American concerns, and it was sold in foreclosure and reorganised as the Chicago and Northwestern Railway Company.

In the meantime the Galena and Chicago Union Railway Company had extended its former line beyond Elgin to Freeport (instead of to Galena, as was intended from the outset) whence it was carried to Fulton, on the Mississippi, the connection being completed in 1855. The Chicago, Iowa and Nebraska, and the Cedar Rapids and Missouri River railway companies were then building lines to the Missouri, and these were leased to the Galena and Chicago Union Railway. This company also owned several branch lines in Illinois which competed with the Fond du Lac road, and this fact encouraged an amalgamation of the two systems, which was effected in 1865, the name of Chicago and Northwestern Railway Company being retained. The new company then had a line to the West which it extended to the Missouri in 1867, a second to Fond du Lac and points North thereof, and a third running in the direction of Minnesota and Dakota, all three terminating in Chicago, and having a total length of 609 miles. This system was rapidly extended; in 1866 the Chicago and Milwaukee road was leased, and connection was established in Omaha, Neb., with the Union Pacific, then being built with the aid of the Government. In 1867 the Winona and St. Peter RR. was obtained control of through purchase of stock, and several new lines had meantime been built by separate companies controlled by the Ch. & N.W., and for the most part with the proceeds from bonds guaranteed by the parent corporation; the result was that in 1873 the company controlled a system of 1,990 miles. In that year, however, another financial crisis broke out which interfered with the development of the new country, business became stagnant, and, moreover, the Granger agitation commenced which, as we have seen before (p. 40) led to hostile legislation and the fixture by the State of impossible tariffs. As a result of these influences construction was discontinued, and not resumed until 1877, by which time business had recovered from the shocks it received during the crisis, while the Granger laws had become less stringent. Between 1877 and 1883 the company constructed 1,590 miles of new roads, and in 1882 the Chicago, St. Paul, Minneapolis and Omaha RR. was added to the system, through purchase of its stock. In 1884 the Fremont, Elkhorn and Missouri Valley and the Sioux City and Pacific were obtained control of in the same manner, and the Milwaukee, Lake Shore and Western in 1891; and while the subsidiary systems were being extended the Chicago and Northwestern constructed 790 miles of new lines, so that the mileage of this railway now amounts to 4,273 miles, specified as follows in the last annual report:—

Chicago & Northwestern Ry.	3,085	miles.
Proprietary lines:		
Dakota Central Railway	724	"
Winona & St. Peter RR.	448	"
Princeton & Western RR.	16	"
Total.	4,273	"

The performance of these roads during a series of successive years is shown in the subjoined table:—

Year ending May 31st.	Average mileage operated.	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue. — $
1873	1,382.18	111·0	3.16	3,509,702	366 4	2.35	8,614,280
1874	1,352.05	116·1	3.20	3,723,212	492·6	2.28	11,206,805
1875	1,380.78	116·7	3.02	3,526,122	454·5	2.10	9,540,429
1876	1,382.08	122·2	2.85	3,463,647	503·1	1.95	9,832,079
1877	1,388.28	116·9	2.89	3,378,295	485·3	1.86	9,005,278
1878	2,036.98	118·8	2.83	3,366,678	623·7	1.72	10,154,168
1879	2,129.37	116·0	2.79	3,240,695	681·8	1.56	10,637,367
1880	2,215.83	140·1	2·67	3,737,342	865·9	1.49	12,897,777
1881	2,644.16	164·3	2.53	4,158,129	980·5	1.47	14,414,151
1882	3,032.90	205·5	2.52	5,171,423	1,192·1	1.47	17,525,134
1883	3,464.70	248·8	2.46	6,119,615	1,183·8	1.42	16,894,351
1884	3,719.58	256·3	2.40	6,153,070	1,350·1	1.31	17,677,866
1885	3,819.37	231·0	2.38	5,498,110	1,416·7	1.19	16.917,393
1886	3,891.45	239·1	2.36	5,646,140	1,466·8	1.19	17,508 244
1887	4,037.23	254·7	2.29	5,820,150	1,754·5	1.10	19,329,463
1888	4,177.96	272·7	2.30	6,279,621	1,939 0	.99	19,118,797
1889	4,243.96	279·2	2.24	6,261,277	1,804·7	1·01	18,193,645
1890	4,250.38	289·6	2.17	6,285,178	2,000·1	.98	19,654,213
1891	4,254.55	309·2	2.17	6,700,351	1,950·0	1.02	19,829,341
1892	4,273.07	336·8	2.17	7,298,880	2,246·3	1.01	22,768,422

This table shows the following increases per cent. since 1873:

Mileage	209	per cent.
Passenger movement . . .	202	"
Freight movement	514	"

Business per mile of road owned has therefore increased very considerably while rates have seriously declined, the average for passengers per mile having fallen 32 p.c., that for freight per ton-mile even 57 p. c., and as a result earnings from both sources are smaller per mile now than they were twenty years ago, and the revenue of this railway, like that of most others, has failed to benefit in proportion by the progress of the Northwest.

Nevertheless the company is in a prosperous condition, and although both its funded debt and share capital have increased considerably since 1880, it has been able to pay excellent and above all regular dividends on a very heavy capitalisation during a series of years characterised by very marked fluctuations in the trade and the prosperity of the Northwest. For a dozen years the dividend on the company's common stock never amounted to less than 6 p.c. and in 1882, 1883 and 1884 7 p.c. was paid, and 6½ p.c. in 1885; moreover, there have always been very considerable surpluses. In 1892 there was a total available revenue of $11,403,570; interest and sinking funds required $6,483,385; dividends on common and preferred stock $3,675,000; and there remained, therefore, a balance of $1,244,450, this surplus being but one of an uninterrupted series. From these figures it is quite evident that the financial position of the company is of the very highest order.

Operations per mile for six fiscal years, ending May 31st, 1892.

Fiscal year ending May 31st.	*Average number of miles operated.*	*Gross earnings per mile.*	*Expenses and taxes per mile.*	*Net earnings per mile.*	*Increase in miles operated.*
		$	$	$	
1887	4,037·23	6,519.65	3,732.84	2,786.81	145·78
1888	4,177·96	6,390.09	3,990.18	2,399 91	140·73
1889	4,243 96	6,053.84	3,776 49	2,277 35	66 00
1890	4,250·38	6,391.16	4,094.95	2,296 21	6 42
1891	4,254·55	6,532.69	4,299 16	2,233 53	1 17
1892	4,273 07	7,353.56	4,759 21	2,594.35	18 52
Average for six years	4,206·19	6,540.16	4,108.80	2,431.36	63 60

Income Account for five years.

Year ending May 31st.	*Average mileage operated.*	*Net earnings.*	*Interest and sinking funds.*	*Amount of dividends.*	*Surplus.*	*Dividends.*	
						Upon common stock.	*Upon pref. stock.*
		$	$	$	$	p. c.	p. c.
1888	4,177	10,026,759	5,273,155	3,444,504	1,309,099	6	7
1889	4,243	9,664,971	5,598,456	3,444,504	622,011	6	7
1890	4,250	9,759,732	5,688,767	3,444,979	625 986	6	7
1891	4,254	9,502,668	5,822,106	3,445,804	234,758	6	7
1892	4,273	11,085,833	6,165,649	3,675,735	1,244,449	9	7

Classified Gross Earnings for five years ending May 31st, 1892.

Derived from	*Year ending May 31st, 1892. 4,273·07 miles.*	*Year ending May 31st, 1891. 4,254 55 miles.*	*Year ending May 31st, 1890 4,250·38 miles.*	*Year ending May 31st, 1889. 4,243 96 miles.*	*Year ending May 31st, 1888. 4,177·96 miles.*
	$	$	$	$	$
Passenger earn.	7,298,880 14	6,700,351.38	6,285,178.81	6,261,277.16	6,279.921.03
Freight "	22,788,422.25	19,829,341 31	19,654,213.24	18,193,645.85	19,118,797·44
Express "	419,389 14	416,925.58	400,444.93	394,264.30	394,646.55
Mail "	655,020.60	598,562.70	586,178.32	577,647.33	556,140 14
Miscellaneous...	260,559.88	248,493 44	238,821.77	265,424.17	348,353 47
Total......	31,422,272.01	27,793,674.41	27,164,837.07	25,692,258.81	26,697,558.63
Average per mile of road.........	7,353.56	6,532 69	6,319.16	6,053.84	6,390 09
Operating expenses and taxes...	20,336,438	18,291,005	17,405,104	16,027,287	16,670,799
Per cent. exp. of earnings......	64 72	65·81	64·07	62·38	62 44

CONDENSED BALANCE SHEET.

	1891-92.	1890-91.	1889-90.
	$	$	$
Assets—			
Roads and equipment.	161,107,982	157,193,271	153,403,472
Bonds owned	*14,892,419	14 912,909	11,219,551
Stocks owned.	†22,051,857	11,966,500	12,151,500
Land grant investments	1,148,760	675,000	422,794
Bills and accounts receivable	1,994,771	1,751,922	1,825,439
Materials, fuel, etc.	2,143,382	2,026,245	1,978,007
Cash on hand.	2,822,769	2,680,248	2 048,880
Trustees of sinking fund.	6,129,761	5,600,101	4,747,971
Total.	211,880,801	196,806,196	187,897,914
Liabilities—			
Stock, common.	§41.386,366	41.384,866	41,384,866
Stock, preferred.	§22.330,954	22,335,484	22,335,454
Stocks of proprietary roads, etc.	519.510	529,885	579,110
Bonded debt	114,235.500	112, 70,500	104,985,500
Dividends declared, not due	1,561,907	1,332,075	1,332,075
Sinking funds paid.	5,405,896	4,972,274	4,747,970
Accretions to sinking fund.	724,065	627,830	—
Securities for capital stock issued. . . .	10,009,821	—	—
Securities retired from income.	335,000	—	—
Current bills, pay-rolls, etc.	2,470,007	1,946,601	2,199,846
Uncollected coupons, etc.	164,876	177.131	176,327
Due to roads in Iowa	1,186.735	1,302,195	1,038,076
Consolidation Coal Co.	128.520	—	125 000
Accrued and accruing interest.	1,652 569	1,649,017	1,578,344
Miscellaneous.	100,580	120.087	93,546
Land income account	2,956 300	2,387,548	1,954.421
Railroad income account.	6,715,163	5,470 733	5,371,977
Total.	211,880,801	196,806,196	187,897,614

* Includes F. E. & M. V. 1st M., owned and pledged as collateral for extension 4s of 1886, $13,287,000.

† Includes Chic., St. P. M. & O. stock, $10,000,000; Mil., L. S. & West. stock, $7,723,000; F. E. & M. V. RR. stock, $1,981,500. Also own C. & N. W. common stock, $2,345,164, and preferred stock, $2,284—included on other side of the account

§ Including $2,345,164 common stock and $2,284 preferred stock in company's treasury.

Statement of Earnings, Interest and Rentals, Dividends, net Railroad Receipts, and net Land Receipts for nineteen years, ending May 31st, 1892.

Year ending	Average mileage.	Gross earnings.	Net traffic earnings.	Interest, rental, etc.	Dividends.	Net receipts.	Net land receipts not including receipts from miscellaneous lands).
$		$	$	$	$	$	$
May 31st 1875	1,952 05	15,631,936 61	5,432,194.47	4,077,113.12	——	1,355,081.35	Dr. 38,166.06
" 1875	1,990.78	13,786,303 08	5,005,035.95	4,486,769.57	——	518,266.38	39,140.92
" 1876	1,992.08	14,018,731.97	5,730,442.07	4,713,327.20	——	1,026,114.87	Dr. 33,162.88
" 1877	1,993.28	13,033,101.96	5,507,001 04	4,578,658.61	536,810.00	391,532 43	Dr. 16,050.29
" 1878	2,036.98	14,751,062.40	7,130,116.70	4,665,629.54	1,956,034 00	508,453.16	116,707.07
" 1879	2,129.37	14,580,921 30	6,873,272.26	4,585 644.36	2,105,868.00	181,759.90	85,300.87
" 1880	2,215.83	17,349 349.04	8,917,749.22	4,837,581.32	2,405,521.00	1,674,646 90	240,472.49
" 1881	2 644.16	19,334,072.05	8,908,251.00	5,130,749.20	2 420,272.75	1,357,229.05	433,353.96
" 1882	3,032.90	23,684,856.10	11,045,022.06	5,686,946.94	2,586,637.75	2,791,437.39	692,488.00
" 1883	3,464.70	24,081,834 32	10,009,317.96	5,957,701.82	2,890,336.52	1,161,280.12	861,030.60
" 1884	3,719.58	25,020,624 16	9,879,667.04	6,178,939.24	2,939,469.50	761,258 30	617,579.19
" 1885	3,819.37	23,502,055.56	9,708,148 51	5,151,101.01	3,081,348.50	575,699.00	541,820.24
" 1886	3,891.45	24,279,399 74	10,420,373.78	5,594,362.92	3,444,504.00	1,381,506.86	663,688.71
" 1887	4,037.23	26,321,315.15	11 250,973.38	5,194,197.61	3,444,504.00	2,612,271.77	504,140 32
" 1888	4,177.96	26,697,556 63	10,026,759.41	5,273,155.96	3,444,504.00	1,309,090.45	476,441 72
" 1889	4,243.96	25,692 258.81	9,664,971.48	5,598,456.12	3,444,504 00	622,011.36	394,168.23
" 1890	4,250.38	27,164,837 07	9,750,732.20	5,688,767.20	3,444,979.00	625,986.00	383,707.50
" 1891	4,254.55	27,793,674.41	9,502,068.70	5,822,106.01	3,445,804.00	234,758.09	433,126.97
" 1892	4,273.07	31,422,272.01	11,065,833.65	6,165,649.02	3,675,735.00	1,244,449 63	508,752.08

Funded Debt, May 31st, 1892. (4,273·07 miles.)

Name of bonds.	*Bonds outstanding May 31st, 1892.*	*Date of maturity.*	*Rate of in.*	*Interest payable.*
	$		p. c.	
Chic. Iowa & Nebraska RR., 1st Mtge	129,000.00	Aug. 15, 1892	7	Feb.15-Aug.15
Cedar Rapids & Missouri River RR., Second Division, 1st Mtge. . . .	582,000.00	Feb. 1, 1894	7	Feb. 1-Aug. 1
Maple River RR., 1st Mtge.	402,500.00	July 1, 1897	7	Jan. 1-July 1
Chicago & Milwaukee R'y, 1st Mtge	1,700,000.00	July 1, 1898	7	Jan. 1-July 1
Peninsula RR. of Michigan, 1st Mtge.	129,000.00	Sept. 1, 1898	7	Mar. 1-Sept. 1
Iowa Midland R'y, 1st Mtge. . . .	1,350,000.00	Oct. 1, 1900	8	April 1-Oct. 1
Escanaba & Lake Sup'r R'y, 1st Mtge.	720,000.00	July 1, 1901	6	Jan. 1-July 1
C. & N. W. R'y. 1st Mtge (Iowa Div.)	700,000.00	April 1, 1902	4½	April 1-Oct. 1
* C. & N. W. R'y, Gen. Con. Gold. .	12,336,000.00	Dec. 1, 1902	7	June 1-Dec. 1
Milwaukee & Madison R'y, 1st Mtge.	1,600,000.00	Sept. 1, 1905	6	Mar. 1-Sept. 1
* Chicago & Tomah RR., 1st Mtge.	1,528,000.00	Nov. 1, 1905	6	May 1-Nov. 1
Chic. Mil. & N.W. R'y. Construction.	601,000.00	Nov. 1, 1905	6	May 1-Nov. 1
Menominee River RR., 1st Mtge. .	400,000.00	July 1, 1906	7	Jan. 1-July 1
Menominee Riv. RR., Ext'n, 1st Mtge.	160,000.00	July 1, 1906	7	Jan. 1-July 1
Des Moines & Minn. RR., 1st Mtge.	600,000.00	Feb. 1, 1907	7	Feb. 1-Aug. 1
Dakota Central R'y, 1st Mtge. (W. & St. P. RR. Connection). . . .	1,007,000.00	Sept. 1, 1907	6	Mar. 1-Sept. 1
W. & St. P. RR. 2nd (now 1st) Mtge.	1,592,000.00	Nov. 1, 1907	7	May 1-Nov. 1
Dakota Central R'y (South Eastern Divison), 1st Mtge.	2,000,000.00	Nov. 1, 1907	6	May 1-Nov. 1
Rochester & No. Minn. R'y, 1st Mtge.	200,000.00	Sept. 1, 1908	7	Mar. 1-Sept. 1
Plainview RR., 1st Mtge	100,000.00	Sept. 1, 1908	7	Mar. 1-Sept. 1
Minnesota Valley R'y, 1st Mtge. .	150,000.00	Oct. 1, 1908	7	April 1-Oct. 1
Ottumwa, Cedar Falls and St. Paul R'y, 1st Mtge	1,600,000.00	Mar. 1, 1909	5	Mar. 1-Sept. 1
Cedar Rapids & Mo. River RR., Mortgage of 1884.	769,000.00	June 1, 1909	7	June 1-Dec. 1
C. & N.W. R'y, 25 yrs. Debent. of 1909	1,902,500.00	Nov. 1, 1909	5	May 1-Nov. 1
Northern Illinois R'y, 1st Mtge. . .	1,500,000.00	Mar. 1, 1910	5	Mar. 1-Sept. 1
Madison Ext'n.. 1st Mtge., S'k'g Fund	2,977,500.00	April 1, 1911	7	April 1-Oct. 1
Menominee Ext. 1st Mtge., S'k'g Fund	2,546,500.00	June 1, 1911	7	June 1-Dec. 1
C. & N.W. R'y Con. Sinking Fund	12,787,000.00	Feb. 1, 1915	7	{ Feb. 1-May 1 { Aug. 1-Nov. 1
Cedar Rapids & Mo. River RR., 3rd Division, 1st Mtge.	2,332,000.00	May 1, 1916	7	May 1-Nov. 1
W. & St. P. RR. (Extension Western Division), 1st Mtge	4,067,500.00	Dec. 1, 1916	7	June 1-Dec. 1
No. Western Union R'y, 1st Mtge..	3,365,000.00	June 1, 1917	7	Mar. 1-Sept. 1
C. & N.W. R'y, 30 years Debentures. .	6,350,000.00	April 15, 1921	5	Apr. 15-Oct. 15
C. & N.W. R'y, Ext. of 1886, 4 p.c.	4,450,000.00	Aug. 15, 1926	4	Feb.15-Aug.15
C. & N.W. R'y, S'k'g Fund of 1879, 6 p.c.	6,305,000.00	Oct. 1, 1929	6	Apr. 1-Oct. 1
C. & N.W. R'y, S'k'g Fund of 1879, 5 p.c.	7,617,000.00	Oct. 1, 2100	5	Apr. 1-Oct. 1
Total Bonds outstanding on account of above mileage of 4,273·07	86,539,500.00			

* = Quoted in London.

Name of bonds.	*Bonds outstanding May 31st, 1892.*	*Date of maturity.*	*Rate of in.*	*Interest payable.*
	$		p.c.	
	86,539,500.00			
C & N. W. R'y 4 p.c. Extension Bonds of 1886 outstanding, issued upon Bonds of the F. E. & M. V. RR. Co., deposited as collateral with the Union Trust Co., Trustee.	13,235,000.00	Aug. 15, 1926	4	Feb.15-Aug.15
C. & N. W. R'y 25 years Debentures of 1909, issued for purchase of Capital Stock of Fremont, Elk. & Mo. Valley RR. Co.	1,966,500.00	Nov. 1, 1909	5	May 1-Nov. 1
*C. & N. W. R'y Sinking Fund Debentures of 1933, outstanding, issued for purchase of Stock of Chi., St. Paul., Minneapolis & Omaha R'y Co.	9,800,000.00	May 1, 1933	5	May 1-Nov. 1
Total Bonds outstanding	111,541,000.00			
Bonds Owned by Company:				
C. & N. W. R'y Con. Sinking Fund. .	4,000.00	Feb. 1, 1915	7	Feb. 1-May 1 Aug. 1-Nov. 1
C. & N. W. R'y Sinking Fund of 1879. 5 p.c.	128,000.00	Oct. 1, 1929	5	April 1-Oct. 1
C. & N. W. R'y 30 years Debentures.	650,000.00	April 15, 1921	5	Apr. 15-Oct.15
	782,000.00			
Life Bonds in Sinking Funds:				
Chi., Mil. & No. Western R'y Con . .	149,000.00	Nov. 1, 1905	6	May 1-Nov. 1
Dakota Central R'y, 1st Mtge. (W. & St. P. RR. Connection)	58,000.00	Sept. 1, 1907	6	Mar. 1-Sept. 1
C. & N. W. R'y, 25 yrs. Debent. of 1909	131,000.00	Nov. 1, 1909	5	May 1-Nov. 1
Madison Ext'n, 1st Mtg. S'k'g Fund.	172,500.00	April 1, 1911	7	April 1-Oct. 1
Menominee Extension, 1st Mtge. S'k'g Fund.	150,500.00	June 1, 1911	7	June 1-Dec. 1
W. & St. P. RR. (Extension West Div.), 1st Mtge	173,500.00	Dec. 1, 1916	7	June 1-Dec. 1
No. Western Union R'y, 1st Mtge. .	135,000.00	June 1, 1917	7	Mar. 1-Sept. 1
C. & N.W.R'y, Extension of 1886, 4 p.c.	943,000.00	Aug. 15, 1926	4	Feb.15-Aug.15
	1,912,500.00			
Total Funded Debt.	114,235,500.00			
Currency Bonds . . $88,311,500.00				
Gold Bonds. 25,924,000.00				

* = Quoted in London.

It has already been stated that the auxiliary companies of the Chicago and Northwestern are operated independently of the Ch. and N. W. proper, but controlled through ownership of stock. The following details are of interest.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RR.

The railroad company known by this name came into existence in 1880, when the Chicago, St. Paul and Minneapolis, St. Paul and Sioux City, and North Wisconsin railroads were consolidated. The length of the company's lines is 1,482 miles, of which 1,374 are owned, 66 leased, and 42 controlled through ownership. The principal lines run from Duluth and Ashland on Lake Superior to St. Paul and Minneapolis; from St. Paul to Elroy, Wis., meeting the Ch. and N.W. at that point and forming part of the through route between Chicago and the twin cities; from St. Paul to Sioux City and Omaha, and local points. The company is extending its Western lines, and all its roads are operated in connection with the Ch. and N. W., which purchased a controlling interest in 1882, when it acquired 93,200 common and 53,800 7 p.c. non-cumulative preferred shares. The share capital amounts to $18,559,427 common ($21,403,293 authorised) and $11,259,913 preferred stock ($12,646,833 authorised). The funded debt consists of $409,800 7 p.c. bonds, redeemable in 1908 and 1909; $125,000 8 p.c. bonds redeemable in 1908; $23,283,756 6 p.c. bonds, including $13,413,756 of a general mortgage bearing 6 p.c. interest, and, finally, $400,000 5 p.c. bonds; all are first mortgages issued upon security of the several parts of the property. Earnings exceed fixed charges considerably, but hitherto nothing has been paid on common stock; preferred shares received until 1884 inclusive their full 7 p.c. interest, since as follows: 1885, $4^3/_4$; 1886, 1887 and 1888, 6; 1889, 3; 1890, 1891, 4; 1892, 6½ p.c. Below are traffic statistics and other compilations prepared from the last annual reports.

Freight and Passenger Movement on the Chicago, St. Paul, Minneapolis and Omaha RR.

Years ending Dec. 31.	Average mileage operated.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue, — $
1884....	1,313	58·6	2.45	1,430,711	329·7	1.25	4,132,530
1885....	1,335	47·5	2.75	1,305,515	335·8	1.27	4,225,398
1886....	1,360	54·6	2.60	1,413,218	374·0	1.19	4,466,734
1887....	1,394	66·7	2.62	1,748,225	435·3	1.14	4,902,910
1888....	1,389	66·5	2.48	1,647,947	396·3	1.13	4,447,587
1889....	1,389	67·2	2.52	1,687,909	411·4	1.07	4,405,450
1890....	1,394	68·6	2.45	1,677,130	481·3	1.01	4,845,392
1891....	1,482	77·9	2.51	1,956,982	509·9	1.12	5,718,281

	1891. $	1890. $	1889. $
Earnings—			
Passenger	1,956,982	1,677,130	1,687,909
Freight	5,718,281	4,845,392	4,405,450
Mail, express, etc.	346,049	325,798	324,499
Total gross earnings	8,021,312	6,848,320	6,417,858
Operating expenses and taxes	5,446,114	4,788,569	4,484,412
Net earnings	2,575,198	2,059,751	1,933,446
Net from land grants	468,728	450,715	561,426
Other receipts	—	136,069	—
Total income	3,043,926	2,646,535	2,494,872
Disbursements—			
Net rentals paid	89,021	85,422	81,035
Net interest on debt	1,346,827	1,280,228	1,323,614
Dividend on preferred stock	562,840	450,272	450,272
Loss on proprietary roads	16,972	7,309	9,609
Total disbursements	2,015,660	1,823,231	1,864,530
Balance, surplus	1,028,266	823,301	630,342

GENERAL BALANCE, DECEMBER 31, 1891.

	$
Assets—	
Common stock and scrip	21,403,293
Preferred stock and scrip	12,646,833
Funded debt	24,248,556
Interest on bonds	271,654
Vouchers and pay-rolls	503,826
Dividends	337,714
Taxes	259,006
Miscellaneous	90,849
Income account	7,664,449
Total assets	67,426,160

Liabilities—	$
Road and equipment	58,941,367
Bonds and stocks owned	4,620,878
Minn. Eastern Railway	173,125
S. S. M. & S. bonds guaranteed	400,000
Advance to proprietary roads	897,607
Cash on hand	1,773,981
Materials and fuel	618,450
Miscellaneous	772
Total liabilities	67,426,180

FREMONT, ELKHORN AND MISSOURI VALLEY RR.

Various roads belonging to this company radiate from Omaha to local points in the Eastern part of Nebraska, and the main line traverses that State, penetrates into Wyoming and the Black Hills, and is being extended still further into the Far West, it is said to meet the Great Northern railway at some point in Montana; presumably Helena will be the point of junction. The Black Hills, if local newspapers are to be believed "abound with all known metals and other minerals," and are just now the El Dorado of Northwestern railways. The Northwestern (Elkhorn) arrived there first, the Burlington, followed and the St. Paul is on the way. The total length of the Elkhorn system is 1,283 miles, and the bonds of the system are owned by the Ch. and N.W. The company leases the Wyoming Central Railway, which is a continuation of the Fremont line from the Eastern border of Wyoming Westward. The Fremont Elkhorn was chartered in 1869, opened in 1871, and on its completion was leased to the Sioux City and Pacific RR. (see below).

The capital stock amounts to $1,966,500, the funded debt to $18,599,000. Subjoined is statement of revenue and disbursements for the last five years.

EARNINGS AND EXPENDITURE.

	1891-92.	1890-91.	1889-90.	1888-89.	1887-88.
Mileage operated	1,301	1,283	1,266	1,236	1,154
Earnings—	$	$	$	$	$
Passengers	714,614	819,584	752,066	725,702	629,021
Freight	2,464,265	2,221,700	2,209,946	2,110,099	1,875,382
Mail, etc.	302,377	268,955	255,732	262,127	240,284
Total earnings	3,481,256	3,310,239	3,217,744	3,097,928	2,744,687
Oper. expenses and taxes	2,376,907	2,258,627	2,174,096	2,053,330	1,759,966
Net earnings	1,104,349	1,051,612	1,043,648	1,044,598	984,721
Expenditure—					
Interest on bonds	1,017,990	976,899	930,178	927,139	850,842
Interest and exchange	—	—	*cr.* 609	*cr.* 609	*cr.* 2,150
Rentals S. C. & P. RR.	13,487	13,512	13,545	13,412	13,120
Total expenditure	1,031,477	990,411	943,114	929,891	861,812
Balance surplus	72,872	61,201	150,543	104,707	122,909

SIOUX CITY AND PACIFIC RR.

This railway is only 107 miles long, but it leases the Fremont, Elkhorn and Mo. River RR. The company was chartered in 1868 and completed its line in 1874. In 1884 the Ch. and N.W. purchased a majority of stock. The road was built with the aid of the Government, which made advances not yet repaid, and runs from Sioux City to Mo. Valley, crosses the Missouri at Blair, Neb., and meets the Fremont, Elkhorn and Mo. Valley RR. in Fremont, Neb. Below is a statement showing revenue and expenditure for three years.

EARNINGS AND EXPENDITURE.

	1801-92.	1890-91.	1889-90.
Mileage operated	107	107	107
Earnings from—	$	$	$
Passengers	251,440	237,482	2[illegible]675
Freight	207,418	211,455	2[illegible]518
Mail, express, etc.	51,358	52,446	[illegible]179
Total earnings	510,216	501,383	540,367
Operating expenses and taxes	379,886	308,088	322,361
Net earnings	130,330	193,295	218,006
Expenditure—			
Interest on first mortgage	97,680	97,680	97,680
Interest on Government lien	97,699	97,699	97,699
Interest on floating debt	—	—	2,477
Dividend on preferred stock	11,830	11,830	11,830
Profit and loss	*cr.*5,143	*cr.*4,664	*cr.*3,604
Total expenditure	202,066	202,545	206,082
Balance	def.71,736	def. 9,250	sur.11,924

MILWAUKEE, LAKE SHORE AND WESTERN RR.

This most recent addition to the Northwestern system consists of a main line from Ashland to Milwaukee and numerous branches into the forest and mining regions of Wisconsin and the Michigan Peninsula. The company is a reorganisation, dating from 1875, of the Milwaukee, Manitowoc and Green Bay, and the Appleton and New London railroads, to which extensions have since been added. It is one of the most important lines in this section, its traffic having shown an almost miraculous growth during the last few years; it is noted for its mineral and lumber traffic, and cannot but further enhance the importance of the Northwestern as a lumber carrier. The total length of the system is 788 miles, of which only 753 are operated; 724 miles are owned, the rest leased. The bonded debt of the company reaches a total of $13,949,000, and consists mostly of sixes, the minority being fives. The share capital is $5,000,000 7 p.c. preferred and $2,650,000 common stock which was exchanged in December, 1891, for Chicago and N. W. stock, in the following proportion: Nine shares of Milwaukee, Lake Shore and Western preferred stock for ten shares of Chicago and Northwestern common stock, and a cash payment of $3.50 per share in lieu of a dividend of similar amount on Milwaukee, Lake Shore and Western preferred stock; five shares of Milwaukee, Lake Shore and Western common stock for four shares of Chicago and Northwestern common stock. The same terms were offered to all the stockholders of the Milwaukee, Lake Shore and Western Railway Company, provided they consented on or before the first day of February, 1892.

Details of traffic as well as the financial condition of the company are shown by the subjoined tables. Dividends were: on preferred, 7 p.c. in 1887, 6 in 1888, since 7; on common, *nil* in 1888, 7 in 1889 and 1890, *nil* in 1891.

Passenger and Freight Movement on the Milwaukee, Lake Shore and Western RR.

Year ending Dec. 31.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1885	526·9	11 1	3.25	362,708	59·9	1.82	928,118
1886	554·9	16·0	3.15	505,998	105·6	1.65	1,742,495
1887	577·0	24.6	2.78	685,790	176·9	1.38	2,420,331
1888	616·2	21·0	2.67	562,083	194·0	1.13	2,161,683
1889	659·1	22·3	2 62	584,282	264·0	1.06	2,793,296
1890	693·5	22 6	2.64	597,293	293·5	1.07	3,148,308
1891	711·0	24·3	2.57	626,509	246·5	1.13	2,794,177

	1891.	1890.	1889.	1888.
Earnings from—	$	$	$	$
Freight	626,509	597,293	2,793,296	2,161,683
Passengers	2,794.177	3,148,308	584.282	562,083
Mail, express, etc.	113,418	102,966	97,089	113,016
Total earnings	3,534,104	3,848,567	3.474,667	2,836,782
Oper. exp. and taxes	2,217,647	2,415,930	1,954,204	1,745,008
Net earnings	1,316,457	1,432,637	1,520,463	1,091,774
Expenditure—				
Other receipts	4,750	24,866	15,294	12,989
Total net receipts	1,321,207	1,457.503	1,535,757	1,104,763
Interest paid	748,746	703,050	671,499	579,305
Rental and miscellaneous.	39,590	37,869	31,764	29,593
Dividends	350,000	506,289	490,000	300,000
Balance	182,871	210,295	342,494	195,865

CHAPTER XXXIII.

THE CHICAGO, BURLINGTON AND QUINCY RR.

The Chicago, Burlington and Quincy originated in 1851, when the Central Military Track Railroad Company was chartered. An amalgamation with the Chicago and Aurora RR., commenced in 1852, was effected in 1856, since which date the corporation has existed under its present name.

Starting with a system some four hundred miles in length and connecting the Mississippi with Chicago, the Burlington followed the example set by other railways and gradually extended its trackage until it now embraces upwards of 6,500 miles of railway. Between 1856 and 1873 the company built numerous small lines; in 1873 it acquired the Burlington and Missouri River RR. in Iowa; in 1880 the Burlington and Missouri River Railroad in Nebraska and the Kansas City, St. Joseph and Council Bluffs; in 1881 the extension of the main line to Denver was resolved upon; in 1883 the Kansas City and St. Joseph was absorbed; in 1885 a traffic agreement was made with the Burlington and Northern, which company was obtained control of in 1890 through purchase of a majority of stock. In the meantime many small branches had been added to the system, and to-day the Chicago, Burlington and Quincy RR. Company operates 6,533 miles of railroad, interconnecting the principal towns in the Northwest, distributed over ten States, and specified as follows in the report for the year ending December, 1891:—

Lines	directly owned or leased	5,166	miles
„	jointly operated	158	„
„	controlled:		
	St. Louis, Keokuk & N. W.	218	„
	Kansas City, St. Joseph & C. B.	313	„
	Chic., Burl. & Kansas City	220	„
	Chic., Burl. & Northern	363	„
	Humeston & Shenandoah (half with Wabash)	95	„
	Total operated	6,533	„

These lines directly connect the Black Hills (see p. 490) Cheyenne, Wyo., (on the Union Pacific) Denver, Omaha, St. Joseph, Kansas City, St. Louis, St. Paul and Minneapolis with Chicago. In addition the system joins St. Louis with Kansas City, St. Joseph, Omaha and Denver, and thus the 'Q'—as it is commonly called—is the most important passenger route in the entire West. But although it penetrates as far as the commercial centres of both the Northwest and Southwest, the focus of its business really lies in Iowa and Nebraska, the lines of this company having been the principal agency which developed these two important and promising States. In Iowa the main line and numerous feeders traverse the famous blue grass region in all directions, and in Nebraska, notably in that part of the State which lies South of the Missouri, the Burlington possesses a network exceeding in density that which the St. Paul has gradually constructed some hundreds of miles further North in Minnesota and Dakota; and yet further extensions are planned.

As may be inferred from the foregoing summary of connections, the Burlington, running as it does to all main points in the Northwest, is a vigourous competitor of the other lines; yet this competition is limited in so far as it is acutely felt only in respect of through traffic at the great centres such as St. Paul, St. Louis, Omaha or Kansas City. As regards local traffic the lines of the Northwest, as has been stated in a preceding chapter, have parcelled out among themselves the local business of the country, and each seems to have selected its own particular region where it intends to develop local business, in respect of which it brooks no opposition or competition; and the region chosen by the Burlington lies South of the foci of local traffic of the St. Paul and Northwestern, and North of those of the Rock Island, Missouri, Pacific and Atchison. But the Burlington's ambition was not gratified by establishing a flourishing local traffic in Iowa and Nebraska. Not willing to depend upon the Union Pacific for its Rocky Mountain and Pacific freight, nor disposed to submit to seeing the Chicago and Northwestern favoured by that line, it went to Denver; and, recognising the prospects of the Black Hills and Wyoming, it also extended its lines towards that State. Nor is the company likely to stop there. Around these lines others will cluster together at no distant date, and from Denver the Burlington will probably push its way towards the Pacific Coast; indeed, surveys for a line across the Rockies or to Salt Lake City have already been made. In Denver there is but one independent Rocky Mountain road—the Denver and Rio Grande—and there are three lines begging for its traffic: the Burlington, Rock Island, and Missouri Pacific; the Atchison has had its own Rocky Mountain route since it acquired control of the Colorado Midland.

The condition of the entire property of the C., B. & Q. RR. Co., is excellent, and the company deserves the name of the 'Pennsylvania of the West.' All its roads and rolling stock are in thorough repair, and most rails are 66lb. steel, while many of its tracks are splendidly ballasted. In Chicago the company uses the Union station, together with the Pennsylvania, with which it has close relations; and in St. Louis it meets the Missouri Pacific. A peculiarity of the Burlington is that it excels all others in advertising. By constantly keeping its name before the public this railway has made its attractions known from the Pacific to the Atlantic coast. 'Folders,' of course, are distributed gratis, for no American railway would think of asking payment for its time tables. But in addition to maps and 'folders' this road distributes numerous descriptive and illustrated pamphlets, and Mr. Anthony, its advertising genius, has invented fans for ladies and playing cards for gentlemen, both of course duly adorned with the road's name. The cards, although of superior quality, are sold at a nominal price, so that they have become the principal implements of 'poker' between the Lakes and the Gulf. Waste-paper baskets of *papier maché* bearing 'The Burlington Route' in blazing letters are found in every hotel; note books, office maps, letter weights and calendars are distributed by thousands; in short, every conceivable device is employed to obtain publicity. Its advertisements and printing cost the company $180,000 per annum in cash; their actual cost, however, cannot be stated, as American railroad companies insist upon paying for their advertisements "in transportation," *i.e.*, in tickets, an unwise practice to which we have referred before.

Subjoined are some statements showing the performance of the road and the financial condition of the company. These statistics are not very comprehensive, the Burlington having not yet seen its way to give the same full publicity to its affairs as most of its rivals.

Freight and Passenger Movement on the Chicago, Burlington & Quincy RR.

Year ending Dec. 31.	*Average mileage operated.**	*Passenger Traffic.* *			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate.* — *Cents.*	*Revenue.* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue.* — $
1889	5,055	288·7	not published.	6,223,510	1732·2	not published.	18,190,818
1890	5,138	292·5		6,360,664	1978·8		18,843,104
1891	5,245	289·3		6,729,809	1804·9		18,269,821

* Mileage jointly operated is counted half.

	1891.	1890.	1889.
	$	$	$
Earnings—			
Passenger	6,729,809	6,369,646	6,223,510
Freight	18,369,821	18,843,104	18,190,818
Mail, express, etc.	2,816,497	2,513,217	2,363,985
Total gross earnings	27,916,127	27,725,967	26,778,313
Operating expenses and taxes	18,549,257	18,749,699	17,690,547
Net earnings	9,366,870	8,976,268	9,087,766
Percentage of oper. exp. to earnings	66·45	67·62	66·06

INCOME ACCOUNT.

	1891.	1890.	1889.
Net earnings	9,366,870	8,976,268	9,087.766
Investments, etc.	1,371,627	806,035	672,863
Net B. & M. land grants	156,848	178,455	291,443
Total income	10,895,345	9,960,758	10,052,072
Disbursements—			
Rentals paid	230,280	206,078	192,119
Interest on debt	5,817,266	5,491,992	5,425,611
Dividends	3,246,686	3,819,630	3,055,704
Rate of dividends	(4¼ p.c.)	(5 p.c.)	(4 p.c.)
Carried to sinking fund	764,839	745,492	744,472
Total disbursements	10,059,071	10,263,192	9,417,906
Balance	sur.836,274	df.302,434	sur.634,166

CONDENSED GENERAL BALANCE SHEET.

	1891.	1890.
	$	$
Assets—		
Road, equipment, etc.	187,817,475	184,176,431
Stocks & bonds owned	32,961,805	31,142,013
Current accounts	3,180,568	3,671,187
Materials, fuel, etc.	1,000,353	1,698,440
Cash on hand	2,816,763	2,275,818
Sinking funds	14,577,407	13,813,937
Total	242,354,341	236,777,826
Liabilities—		
Stock, common	76,394,905	76,394,505
Bonds	109,711,200	106,739,202
Land grant sinking fund	8,763,820	8,376,735
Other sinking funds	10,564,838	9,471,154
Contingent liabilities	4,720,281	4,720,281
Renewal fund	9,000,000	9,000,000
Miscellaneous	4,456,969	4,375,938
Profit and loss	6,637,623	6,451,582
Income account	12,084,705	11,248,431
Total	242,354,341	236,777,826

General Balance Sheet, December 31st, 1891, showing Capital Stock, Bonded Debt, Investments, etc.

DEBIT.	$	$
Capital Stock—		
763,926 shares C. B. & Q. stock, reported Dec. 31, 1890	. . . .	76,392,600.00
4 shares C. B. & Q. stock, issued for 5 per cent. bonds of 1903 converted	. . . .	400.00
		76,393,000.00
B. & M. R. RR. (Iowa) stock, amount Dec. 31, 1891.	. . . .	1,905.00
		76,394,905.00
Funded Debt—		
C. B. & Q. 7 per cent. bonds, payable Jan 1, 1896.	. . . .	547,500.00
C. B. & Q. consolidated mortgage 7 per cent. bonds, payable July 1, 1903.	. . . .	17,500,000.00
C. B. & Q. sinking fund 5 per cent. bonds, payable June 1, 1895, issued for the Albia Knoxville & Des Moines RR.	462,000.00	
Less amount purchased for sinking fund and cancelled.	132,000.00	
		330,000.00
*C. B. & Q. sinking fund 5 per cent. bonds, payable Oct. 1, 1901, issued for the St. Louis, Rock Island & Chicago RR	2,500,000.00	
Less amount purchased for sinking fund and cancelled.	184,000.00	
		2,316,000.00
C. B. & Q. Iowa division mortgage sinking fund 5 per cent. bonds, payable Oct. 1, 1919.	3,000,000 00	
Less amount purchased for sinking fund and cancelled.	108,000.00	
		2,892,000.00
C. B & Q. Iowa division mortgage sinking fund 4 per cent. bonds, payable Oct. 1, 1919	10,591,000.00	
Less amount purchased for sinking fund and cancelled.	2,225,000.00	
		8,366,000.00
C. B. & Q. sinking fund 4 per cent. bonds, payable Sept. 1, 1921, issued for the Burlington & Southwestern Ry.	. . . .	4,300,000.00
C. B. & Q. sinking fund 4 per cent. bonds, payable Feb. 1, 1922 (Denver extension) .	. . . .	7,968,000.00
C. B & Q. 5 per cent. bonds, payable May. 1, 1913, issued for Hannibal & St. Joseph RR. stock	. . . .	9,000,000.00
*C. B. & Q. Nebraska extension mortgage sinking fund 4 per cent. bonds, payable May 1, 1927	28,652,000.00	
Less amount purchased for sinking fund and cancelled.	1,087,000.00	
		27,565,000.00
C. B. & Q. convertible 5 per cent. bonds, payable September 1, 1903.	7,639,200.00	
Less amount converted into stock	400.00	
		7,638,800.00
B. & M. R. RR. (Iowa) land grant mortgage sinking fund 7 per cent. bonds, payable October 1. 1893	5,058,350.00	
Less amount purchased for sinking fund and cancelled	1,155,450.00	
		3,902,900.00

(Continued)

	$
B. & M. R. RR. (Iowa) convertible 8 per cent. bonds, payable July 1, 1894	66,000 00
B. & M. R. RR. in Nebraska consolidated mortgage sinking fund 6 per cent. bonds, payable July 1, 1918	12,894,000.00
B. & M. R. RR. in Nebraska sinking fund 4 per cent. bonds, payable January 1, 1910, issued for Atchison & Nebraska RR. stock	3,347,000.00
Republican Valley RR. mortgage sinking fund 6 per cent. bonds, payable July 1, 1919	1,078,000.00
	109,711,200.00
Total Stock and Funded Debt	186,106,105.00

* = Quoted in London.

Contingent Liabilities for Branch Roads: —	
Ottawa, Oswego & Fox River Valley RR. 8 per cent. bonds, payable July 1. 1900.	1,076,000.00
Omaha & Southwestern RR. 8 per cent. bonds, payable June 1, 1896	669,000.00
Nebraska Railway 7 per cent. bonds, payable October 1, 1896.	349,000 00
Atchison & Nebraska RR. 7 per cent. bonds, payable March 1, 1908	1,125,000.00
Atchison & Nebraska RR. 6 per cent. bonds, payable Dec. 1, 1927, (first mortgage on Rulo Bridge and second mortgage on Railroad)	901,280 84
Lincoln & Northwestern RR. sinking fund 7 per cent. bonds, payable January 1, 1910.	630,000.00
	4,720,280.84
Coupon interest unpaid (including $1,204,442.50 due January 1, 1892)	1,340,786.75
Unpaid vouchers and pay rolls.	1,277,533.28
Sundry current accounts.	1,838,648.93
	4,456,968.96
Profit and loss	6,637,622.80
Renewal fund	9,000,000.00
Income account	12,084,705.39
Sinking Funds, showing the total of payments to and accretions of Sinking Funds for—	
C. B. & Q. 5 per cent. bonds, account of A. K. & D. M. RR. bonds	359,368.30
C. B. & Q. 5 per cent. bonds, account of St. L. R. I. & C. RR. bonds	1,102,304.21
C. B. & Q. 4 and 5 per cent. bonds (Iowa division)	2,213,463.43
C. B. & Q. 4 per cent. bonds of 1921 (B. & S. W. Ry.)	535,456.40
C. B. & Q. 4 per cent. bonds 1922 (Denver extension)	973,663 74
C. B. & Q. 4 per cent. bonds of 1927 (Nebraska extension)	991,299 87
B. & M. R. RR. (Iowa) land grant bonds	8,763,820.47
B. & M. R. RR. in Nebraska 6 per cent. bonds of 1918.	3,043,802.75
B. & M. R. RR. in Nebraska 4 per cent. bonds of 1910 (A. & N. RR.)	1,044,773.14
Republican Valley RR. 6 per cent. bonds of 1919	220,105 98
Lincoln & North Western RR. 7 per cent. bonds of 1910	96,600.30
	19,348,658.54
	242,354,341.58

CREDIT.

Construction Accounts—		
Amount of construction and equipment reported Dec. 31, 1890.		112,511,861.63
Amount expended for construction on main line in 1891	$538,417.54	
Amount expended for equipment in 1891 . . .	759,029.83	1,297,447.37
		113,809,309.00
Cost of Branch Roads—		
Cost of branch construction reported Dec. 31, 1880		71,664,569.49
Amount expended for construction on branches in 1891 . .		2,343,596.72
		74,008,166 21
Cost of investments in Chicago & Iowa; Hannibal & St. Joseph; Kansas City St. Joseph & Council Bluffs; Chicago, Burlington & Kansas City; St. Louis, Keokuk & North Western; Humeston & Shenandoah; Chicago, Burlington & Northern; and other railroad securities		30,751,958.89
Sundry investments		2,209,846.74
Materials on hand for future use		1,000,352.65
Trustees of Sinking Funds, showing the cost of uncancelled securities held in Sinking Funds for—		
C. B. & Q. 5 per cent. bonds of 1895		229,848.66
C. B. & Q. 5 per cent. bonds of 1901		927,266.95
C. B. & Q. 4 per cent. bonds of 1921		535,456.40
C. B. & Q. 4 per cent. bonds of 1922		973,663.74
B. & M. R. RR. (Iowa) land grant bonds		6,501,889 06
B. & M. R. RR. in Nebraska 6 per cent. bonds		3,043,802.75
B. & M. R. RR. in Nebraska 4 per cent. bonds		1,044,773.14
Republican Valley RR. 6 per cent. bonds		224,105.93
Lincoln & Northwestern RR. 7 per cent. bonds		96,600.30
		14,577,407.13
Current Accounts—		
Sundry available securities		356,888.38
Sundry accounts and bills receivable		2,823,649.05
Cash in treasury.		2,816,763 48
		5,997,300.91
		242,354,341.53

The Burlington has paid the following dividends:—

From	1873	until	1876	inclusive	10	p.c.
„	1877	„	1879	„	9	„
„	1880	„	1882	„	8	„
„	1883	„	1885	„	7	„
„	1886	„	1888	„	6	„
„	1889	„	1890	„	5	„
In	1891	4½ p.c.				
„	1892	(until Sept. 30) three quarterly dividends of 4½ p.c.				

Concerning the proprietary systems all that is necessary for our purpose is to state the following: *The Ch., B., & Northern* operates 363 miles, and was completed in 1886, forming one of the best connections between Chicago and St. Paul, and using part of the C., B. & Q. main line to the West; this road claims to be better graded than any other connecting its two terminals. The company issued bonds to the amount of $12·7 millions and its stock amounts to $9,068,500, earns no dividend, and was bought at 40 in 1890 by the C., B. & Q.

The Chicago, Burlington & Quincy and Chicago & Iowa give a traffic guarantee for twenty years of one-half of their net earnings derived from business to and from the Chicago, Burlington & Northern (to be not less than $100,000 per year) for the retirement of Chicago, Burlington & Northern firsts at 105; and after March 31st, 1896, the whole issue may be retired at 105. In 1891 gross earnings were $2,224,203; net, $925,683. In 1890, gross, $2,115,412; net, $876,855; interest, $692,700; rentals, etc., $106,001; surplus, $213.

The Kansas City, St. Joseph and Council Bluffs RR. connects the three towns after which it is named. Bonded debt $5,587,000. The capital stock of $5,262,600 was purchased by the Chicago, Burlington & Quincy in 1880, and the road is operated as part of that system. In 1890 gross earnings were $1,863,021; net, $596,327; surplus over fixed charges, $183,031; dividends paid, $161,577.

CHAPTER XXXIV.

THE WABASH.

The oldest part of what to-day is the Wabash system was projected in 1857, when the North Missouri RR. was chartered. This road was built with State aid, Missouri advancing $435,000 in its own bonds secured by a lien on the road [1] and was to connect St. Louis with Kansas City. Construction was pushed forward, a first mortgage of $6,000,000 being issued, but although the company absorbed several others its lines did not reach Kansas City during the first stage of its existence. In 1868 the State waived its mortgage rights and the company was thereby enabled to issue a second mortgage to the amount of $4,000,000, on the interest of which it defaulted, a sale in foreclosure, held in 1871, being the result. The property was acquired by the St. Louis, Kansas City and Northern, which built several new branches and increased the length of the system to 599 miles, completing the connection between St. Louis and Kansas City, Council Bluffs and other points. In 1879 the St. L., K. C., & N. amalgamated with the Wabash RR. Co., a corporation which was a reorganisation of the Toledo, Wabash and Western, the latter again being an amalgamation of many small lines. After the fusion of the Wabash with the St. Louis, Kansas City and Northern the company was known as the Wabash, St. Louis and Pacific RR., and owned about 860 miles of road running from Toledo on Lake Erie to Kansas City and other points, via St. Louis.

This consolidation was very much of a 'deal.' Mr. Gould and several others who had acquired anything but a good reputation over the management of the Erie had a finger in the pie, and hence it is almost needless to say that the company's finances were conducted on no very commendable principles. Immediately after the amalgamation the capital consisted of $40,000,000 in shares, and the funded debt amounted to $35,464,550; this last amount alone represented more than twice the value of the lines, which were in very bad condition. Instead of endeavouring to improve and consolidate the property, however, its managers saw fit to plan extensions on a very elaborate scale, and leased, purchased and constructed a great number of lines upon conditions distinctly disadvantageous to the lessee; it is well known that the leased properties consisted of bad local lines of little value which were first bought by Gould and his associates in their private capacity, and then sold or leased to their company. By 1880 the system had attained a length of 2,479 miles, and at the close of 1881 the company operated 3,518 miles—an increase of 2,600 miles since 1879. One of the results was that the funded debt had grown to $71,000,000, there being also a floating debt exceeding $3,000,000 and other liabilities. The greater part of this debt was caused by the purchase of worthless lines, although a portion originated in the payment of interest and dividends out of earnings: for example, the company paid a dividend of 6 p.c. on its preferred stock (23 millions) in 1881, although earnings for that year were over $1,000,000 below fixed charges.

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[1] This lien was relinquished in 1868, the State declaring itself satisfied with a payment of $300,000 in its own bonds.

In 1883 the system was leased to the Iron Mountain RR., and became part of the 'Southwestern System' controlled by Gould. This lease was one of the most curious ever made, the Iron Mountain paying no rental but agreeing to advance to the Wabash any amounts that might be required to make up the deficiency should its earnings fall short of fixed charges. These advances were to be secured by liens upon the property, and the Iron Mountain Co. could at any time refuse to grant them, in which case however, the Wabash had a right to terminate the 'lease.' The Iron Mountain made such advances in 1883, but refused to repeat the process in May, 1884, when the Wabash had a considerable deficit; as a result the latter defaulted on its general mortgage bonds and went into the hands of a receiver. With regard to this receivership the grossest irregularities are well known to have taken place. Default was no absolute necessity, and the receivership was not applied for by creditors, as is usual, but by the company itself, which alleged to be indebted to the extent of $2,200,000, for which sum it had issued promissory notes, endorsed "by persons of high financial standing" whose names were withheld because of "the personal inconvenience and injury which might result to them from the publicity thereby given to their business affairs." It transpired later that Mr. Gould and several of his lieutenants were the "financiers of high standing," all endorsers being members of the boards of the Missouri Pacific, Iron Mountain and Wabash companies. The judge who appointed the receivers was a corrupt relative of one of Gould's lieutenants, and Messrs. Solon Humphreys and Timothy Tutt became receivers, the former being a member of the Wabash board, the latter a St. Louis financier closely connected with Gould. With such men in power there was of course no end of robbery and jobbery. The promisory notes, issued nobody knows in consideration of what were replaced by receivers certificates, and a floating debt of $7,600,000 was contracted during the thirty months which elapsed before a reorganisation was attempted in 1986. Owing to the manipulation of the St. Louis Courts, orders were made permitting sale in foreclosure, and the property came under the hammer and was bought by a purchase committee. Unfair proposals being made with regard to a reorganisation, the foreign bondholders interfered and succeeded in bringing an action before the Courts of Illinois and Ohio. These Courts investigated the matter and unearthed so many frauds that they removed the receivers as far as those parts which were within their jurisdiction were concerned, and hence separate receivers were appointed for the lines East of the Mississippi, Gould remaining in control of the Western lines. His power over the Wabash was, however, broken, and after protracted negotiations a reorganisation committee in which Gould was represented, was appointed, and completed it task in 1889.[1] The capitalisation was remodelled in such manner that annual charges were considerably decreased while many leases lapsed owing to the reorganisation, the new company, being unwilling to renew these unprofitable arrangements. Since 1889 Gould's influence has increased, and he is now to all intents and purposes once more in control.

The Wabash system of to-day comprises 1,930 miles of railroad, of which 1,457 miles are owned, 213 leased, and 179 operated under joint trackage arrangement; while 70 miles belong to the purchasing committee. The subjoined summary shows details:—

The main track mileage is located in States as follows:—

In Michigan	79·7
In Ohio	104·6
In Indiana	393·7
In Illinois	731·0
In Missouri	499·1
In Iowa	124·6
Total	1,932·7

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[1] In the second half of 1889 the following information was made public:—"The capital stock of the consolidated company will be $52,000,000. Of this $24,000,000 will be preferred and $28,000,000 common stock. The preferred will receive 7 per cent. dividends before the common will be entitled to any. This new stock will be issued to the holders of the stock of the old Wabash St. Louis, and Pacific, deposited under the reorganisation plan. The resurrected Wabash, with its 1,952 miles of road, will have a bonded debt of $78,000,000, making a total of $130,000,000 of obligations under which it must commence its new career. This makes an average of something over $67,000 of debt and stock per mile, and about $40,000 of bonded obligation per mile. The bonds consist of $34,000,000 of first mortgage, $14,000,000 of second mortgage, and $30,000,000 of debentures. The latter will draw interest only if earnings are sufficient, and if they are not sufficient the unpaid interest will not be cumulative. The fixed charges will be $2,614,950 (after 1895 $200,000 less). The debentures will require $1,800,000. The first mortgage covers all the real and personal property of the consolidated lines east and west of the Mississippi, and its object is to secure an issue of $34,000,000 50-year 5 per cent. gold bonds, dated 1st November, 1887, of which $11,741,000 are to be used to pay the bonded indebtedness of lines west of the Mississippi, while the balance of $22,259,000 is to be used for the purpose of taking up first mortgage bonds east of the Mississippi. The second mortgage is a lien on all the lines east and west of the river to secure $30,000,000 debenture bonds to run for 50 years from 1st February, 1888, and to bear interest at the rate of 5 per cent. per annum; these debentures are to be used in taking up outstanding bonds."

These lines form a direct connection between Kansas City on the one hand and St. Louis, Chicago, Toledo and Detroit on the other, between Chicago and St. Louis and numerous other points. Branches go to Des Moines, Keokuk, Streator, the Illinois coalfields, etc., and the tracks traverse a splendid agricultural region particularly noted for its vast production of Indian corn. The lines between Kansas City and Toledo (via St. Louis), between Kansas City and Chicago, and especially between St. Louis and Chicago are all short routes, and the company is now building the Detroit Short Line which will run from Chicago to Montpelier, O., meeting the Wabash main line at the latter place and obviating the necessity of giving, as has been done hitherto, part of the through traffic between Chicago and Detroit to the Chicago and Erie, which meets the main line at Laketon Junction, Ind.

Below are the customary statistics showing the present condition of the company. In 1892 interest, rentals and taxes required $3,643.946 the available revenue for the year ending June 30th., 1892, being $3,945,222. The company therefore could pay 6 p.c. on the $3,500,000 'A' debentures, as in previous years, after which a balance $91,476 remained as net result of the year's operations, the 'B' debentures receiving nothing. The company is issueing $3,500,000 gold mortgage bonds redeemable in 1941 for its Detroit and Chicago extension. The earnings of this division are to be kept separate, and out of them the interest will be paid, it being moreover stipulated that out of these earnings a sum not exceeding 2 p.c. of bonds outstanding is be kept in a sinking fund for redemption by drawings or purchase at 110.

The physical state of the Wabash is far from satisfactory, all roads except the main line being in bad condition. The Wabash never has been a good road, for from its earliest days down to the present time chronic lack of funds prevented it from effecting betterments on anything like a thorough scale, and this has of course reacted upon operating expenses to an extent that cannot be better illustrated than by contrasting freight statistics of the Wabash with those of the Lake Shore. There is little difference between the geographical situation of the two roads; the Wabash, indeed, rather enjoys an advantage on account of its being beyond the influence of Lake competition; but the disparity in technical perfection is so great that the Lake Shore can move one ton of freight at an average cost of 0.485c. while the Wabash cannot do it for less than 0.554c., which means that, were the Wabash as perfect a road as the Lake Shore, its freight movement would, with the present gross rates, yield some $960,000 net revenue per annum more than it does now. The disadvantages arising from the bad condition and the desirability of betterments were, apparently, clearly realised by the management. In his annual report for 1890 (p. 7) President Ashley, said: "If an expenditure of $500,000 could, however, be made in one single year on lines West of Mississippi River it would be true economy in the end." Again on page 10 of the 1891 report it is remarked that "Providence for the perfection of the road, both by more thorough ballasting and changes of gradient, should be made from time to time as money can be appropriated, but surplus income may suffice to make these improvements without adding to the debt of the company." These official utterances left no doubt as to the board's policy, and the good earnings of 1891-92 have been taken advantage of to effect the requisite betterments. In 1891-92 net earnings were little larger than in 1891 while gross receipts show an increase of over $1^1/_4$ million. The annual report shows that vast sums have been spent on the permanent way; but it is doubtful whether this expenditure is more than a drop in the sea.

Subjoined are the usual compilations:

Traffic Statistics for twelve years. (Until 1888 inclusive years ended December 31st; since the reorganisation they terminate June 30th.)

Year.	*Miles road operated.*	*Earnings per mile.*	*Operating expenses per mile.*	*Net earnings per mile.*
		$	$	$
1881	2,779·3	5,205.55	4,458.25	747.30
1882	3,401·6	4,954.05	3,652.49	1,301.56
1883	3,587·5	4,715.02	3,827.76	887.26
1884	3,582·5	4,650.83	3,896.35	754.48
1885	2,912·8	4,738.26	3,995.80	742.46
1886	2,191·4	5,843.96	4,308.62	1,535.34
1887	1,989·5	6,745.50	4,757.22	1,988.28
1888	1,950·1	6,324.26	5,014.40	1,309.82
1889	1,944·4	6,475.25	5,047.44	1,427.81
1890	1,922·3	6,946.30	5,032.11	1,914.19
1891	1,922·9	6,775.33	4,974.37	1,800.96
1892	1,916·8	7,506.95	5,651.36	1,855.59

Year.	*Number passengers carried one mile.*	*Rate per passenger per mile. (cents.)*	*Expenses per passenger per mile. (cents.)*	*Net earnings per passenger per mile. (cents.)*
1881.	157,114,727	2.238	1.968	0.270
1882.	166,198,560	2.373	1.804	0.569
1883.	154,727,718	2.498	2.190	0.308
1884.	154,700,988	2.366	2.251	0.115
1885.	138,274,372	2.314	2.247	0.067
1886.	131,005,562	2.186	2.120	0.066
1887.	143,762,871	2.212	1.923	0.289
1888.	157,146,634	2.089	1.867	0.222
1889.	152,404,045	2.150	1.939	0.211
1890.	149,183,008	2.130	1.890	0.240
1891.	149,904,803	2.178	1.842	0.336
1892.	170,201,067	2.057	1.839	0.218

Year.	*Tons freight carried.*	*Tons carried one mile.*	*Rate per ton per mile. (cents.)*	*Expenses per ton per mile. (cents.)*	*Net earnings per ton per mile. (cents.)*
1881. . . .	5,393,917	1,149,774,547	0.928	0.704	0.224
1882. . . .	5,911,012	1,247,611,320	0.951	0.694	0.257
1883. . . .	5,850,566	1,283,790,523	0.948	0.787	0.161
1884. . . .	6,358,761	1,373,842,462	0.857	0.737	0.120
1885. . . .	5,558,571	1,183,951,136	0.802	0.699	0.103
1886. . . .	5,486,067	1,101,685,716	0.818	0.605	0.213
1887. . . .	6,409,301	1,075,047,083	0.855	0.623	0.232
1888. . . .	6,231,879	1,072,298,610	0.750	0.638	0.112
1889. . . .	6,267,780	1,094,717,509	0.756	0.627	0.129
1890. . . .	6,832,358	1,430,197,382	0.647	0.479	0.168
1891. . . .	6,256,064	1,209,179,055	0.733	0.563	0.170
1892. . . .	6,928,051	1,390,510,161	0.705	0.554	0.151

Income Account—Years ending June 30th, 1891 and 1892.

	1892 $	1891 $
To Operating Expenses—		
Conducting transportation	4,518,060.42	4,100,029.80
Motive power	2,826,392.26	2,611,567.58
Maintenance of way	1,906,902 62	1,708,280.27
Maintenance of cars	1,287,646.53	901,121.10
General expenses	293,406 12	249,195.59
Surplus earnings	3,556,804.18	3,463,064.47
	14,389,331.13	13,028,287 76
To interest on bonds	2,546,245 00	2,542,708.15
Rentals leased lines	127,880 00	124,130.00
Rentals of tracks, bridges, etc.	456,800 41	485,442.60
Taxes	464,549.15	417,700.00
Dividends on preferred debenture bonds	210,000.00	210,000.00
Sundry amounts	46,472.23	69,582.50
Balance net income, June 30th, 1892	146,700.55	274,082 20
	4,000,647.34	4,073,595.45

	1892 $	1891 $
By Earnings—		
Freight earnings	9,800,968.53	8,860,819.00
Passenger "	3,501,088.37	3,264,948.05
Mail "	386,218 31	358,576 42
Express "	354,888 80	336,208.78
Miscellaneous earnings	346,217.03	207,735 58
	14,389,331.13	13,028,287.76
By balance net income, July 1st, 1891	55,224.68*	237,791.50
Surplus earnings brought down	3,556,804.18	3,463,064.47
Sundry amounts received for rent of tracks, etc.	388,618.48	372,739 48
	4,000,647.34	4,073,595 45

General Balance Sheet, June 30th, 1891 and 1892.

	1892 $	1892 $
Assets—		
To cost of road, equipment and appurtenances	129,933,500.00	129,928,500.00
Supplies and materials on hand	598,883.56	600,271.46
Cash on hand	1,093,445 15	1,189,922.88
Jas. F. Joy, T. H. Hubbard, O. D. Ashley, and E. T. Welles, the purchasing committee	119,955 50	43,259.19
Montpelier & Chicago RR. advances	249,350.27	33,822 35
Betterments	84,339.07	78,685 12
Investments in stocks and bonds	156,170.54	152,060.54
Due from sundry railroads and individuals	1,066,470.21	1,075,702.06
Wabash reorganization	420,000 00	500,000.00
	133,722,114.30	133,601,232.60

		$
Liabilities—		
By balance of income account, June 30, 1892	146,700 55	274,082.20
Common stock	28,000,000 00	28,000,000.00
Preferred stock	24,000,000.00	24,000,000.00
Bonds	78,000,000 00	78,000,000.00
Interest due and accrued	928,497.58	870,571.06
Sundry accounts payable	2,103,284 75	1,912,947.90
Income account prior to July 1, 1889	543,631 42	543,631.42
	133,722,114.30	133,601,232.60

*This sum represents $274,082.20, *less:* Betterments, $79,688.57, and Real Estate in St. Louis, $218,857.52.

Share Capital.

	$
*Common stock	28,000,000
*Preferred „ (7 p.c. non-cumul.)	24,000,000

Funded Debt and Interest Charges.

Name of Bonds.	*Issued.*	*Due.*	*Amount outstanding.* $	*Rate of interest.* p.c.	*Interest, when payable.*	*Annual interest.* $
*The Wabash Railroad Company, 1st mortgage bonds	1889	1939	22,581,000	5	May & Nov.	1,129,050
*The Wabash Railroad Company, 2nd mortgage bonds	1889	1939	14,000,000	5	Feb. & Aug.	700,000
*The Wabash Railroad Company, debenture bonds	1889	1939	A 3,500,000 B 26,500,000	6	Jan. & July	†
North Missouri Railroad, 1st mortgage bonds	1865	1895	6,000,000	7	Jan. & July	420,000
Real Estate and Railway mortgage bonds, St. Louis, Kansas City and Northern Railroad	1874	1895	3,000,000	7	Mar. & Sep.	110,000
St. Charles Bridge, 1st mortgage bonds	1878	1908	1,000,000	6	Apr. & Oct.	60,000
St. Charles Bridge, 2nd mortgage bonds	1878	1908	388,500	7	Apr. & Oct.	27,195
Leased Line Bonds.						
Brunswick and Chillicothe Railroad, 1st mortgage bonds	1878	1908	304,500	6	Feb. & Aug.	18,270
St. Louis, Council Bluffs & Omaha Rail'd, 1st mortgage bonds	1878	1908	626,000	6	Jan. & Jul.	37,560
Boone County and Boonville Railway, 1st mortgage bonds	1873	1903	100,000	7	May & Nov.	7,000
Total	....	....	78,000,000			2,509,075
In addition to the above, which exist unchanged since the reorganisation, the following bonds have been issued on the Chicago extension running from Montpelier, O., to the Ch. & West. Ind. RR. near Chicago; the interest will be a charge against the said extension:						
Detroit and Chicago extension 1st mortgage bonds	1891	1941	3,500,000	5	Jan. & July	175,000

* Quoted in London.

† Interest payable if earned.

NOTE.—Obligations on leased lines other than above are as follows:—

Eel River Railroad Company.—Rental charge. $60,000.00 per annum, April 1, 1887, to April 1, 1892; $75,000.00 per annum, April 1, 1892, to April 1, 1895; $90,000.00 per annum, April 1, 1895, and thereafter. Rental payable April 1 and October 1. Also the sum of $500 per annum for organisation expenses, payable October 1 each year.

Louisiana & Pike County Railroad.—Annual rental charge, $800.00.

Statement of Lines Covered by the First and Debenture Mortgages of the Wabash Railroad Company.

LINES EAST OF THE MISSISSIPPI RIVER.

Toledo	to East Hannibal	462·3	Miles.
Bluffs	to Camp Point	39·4	"
Clayton	to Elvaston	34·5	"
Decatur	to East St. Louis	110·2	"
Auburn Junction	to Effingham	205·4	"
Shumway	to Altamont	10·3	"
Fairbury	to Streator	31·5	"
Edwardsville	to Edwardsville Crossing	8·5	"
Delrey (near Detroit)	to Butler	110·2	"
	Total lines east	1,012·3	"

LINES WEST OF THE MISSISSIPPI RIVER.

St. Louis, Tayon Avenue	to Harlem	274·8	Miles.
St. Louis, Levee	to Ferguson	10·8	"
Moberly	to Ottamwa	130·9	"
Brunswick	to Pattonsburg	79·7	"
Salisbury	to Glasgow	14·7	"
Centralia	to Columbia	21·7	"
	Total lines west	532·6	"
Total all lines covered by the first and debenture mortgages		1,544·9	"

The second mortgage covers all the lines east of the Mississippi River, as above; total number of miles, 1,012·3.

NOTE.—The first and debenture mortgages also cover the leasehold interest which the Wabash Railroad Company has in the Eel River Railroad from Butler to Logansport, a distance of 93·2 miles, and also covers the leasehold interests which the Wabash Railroad Company has in the terminals at Detroit, Chicago, Hannibal, Quincy and Kansas City, and in the bridges at Hannibal, St. Louis and Kansas City.

The second mortgage also covers the leasehold interest which the Wabash Railroad Company has in the Eel River Railroad, from Butler to Logansport, a distance of 93·2 miles, and the leasehold interests which the Wabash Railroad Company has in the terminals at Detroit, Chicago, Hannibal and Quincy, and in the bridge at Hannibal.

The first and debenture mortgages cover the lines west of the Mississippi River above described, subject to prior divisional mortgages. By the terms of the first mortgage, a sufficient number of first mortgage bonds are reserved to meet, at their maturity, or whenever exchanges can be made, the divisional mortgages covering the lines west of the Mississippi River.

The Wabash Railroad Company. Tonnage of Articles Carried.

Articles.	*1891-92.* *Tons.*	*1890-91.* *Tons.*	*1889-90.* *Tons.*
Products of Agriculture—			
Wheat	501,065	198,691	396,325
Corn	879,367	591,976	1,202,704
Other grain	255,650	184,692	204,459
Flour	153,972	122,956	136,816
Other mill products	88,225	68,730	73,246
Hay	38,683	30,710	36,294
Tobacco	9,220	11,109	11,709
Cotton	56,868	53,764	29,903
Fruits and vegetables	94,806	107,523	68,310
Products of Animals—			
Live stock	480,746	467,865	387,416
Dressed meats	102,835	115,446	118,365
Other packing-house products	85,440	119 634	70,762
Wool	8,332	7,840	5,117
Hides and leather	20,104	15,467	10,471
Products of Mines—			
Stone, sand, etc.	172,504	149,065	119,070
Anthracite coal	86,040	140,677	191,669
Bituminous coal	1,530,720	1,527,963	1,604,231
Coke	23,806	26,442	34,322
Ores	5,306	1,218	4,898
Products of the Forest—			
Lumber	434,076	405,928	371,820
Other articles	134,845	167,959	196,697
Manufactures—			
Petroleum and other oils	63,140	57,308	56,394
Sugar	62,786	49,540	34,237
Iron, pig and bloom	33,022	38,505	52,587
Iron and steel rails	98,250	27,408	33,024
Other castings and machinery	59,400	73,179	41,212
Cement, brick and lime	126,991	96,030	91,608
Agricultural implements	22,476	20,969	15,023
Wagons, carriages, tools, etc.	15,471	11,956	9,043
Wines, beer and liquors	50,346	46,956	30,429
H. H. goods and furniture	15,345	14,803	18,133
Merchandise	466,857	456,949	421,863
Miscellaneous	821,734	846,829	754,201
Total	6,928,051	6,256,046	6,632,358
Company's freight	942,660	814,940	741,618

CHAPTER XXXV

THE CHICAGO AND ALTON.

For many years past this company has been conspicuous as financially the soundest to be found in the entire West, if not in the whole country. Its principal characteristics are: unsurpassed excellence of property, able, conservative and independent management, and good and regular returns upon a moderate capital.

In February, 1847, the present main line was chartered as the Chicago and Mississippi Railway, but the company owning the property was reorganised ten years later as the Chicago, Alton and St. Louis RR. Co., and again in 1861, after foreclosure. In 1862 it acquired the St. Louis, Alton and Chicago RR.; in 1868 it leased the St. Louis, Jacksonville, and Chicago RR., with which it was consolidated in 1884; and in 1879 it built the Coal City branch. The present system comprises 849 miles of railroad, as follows:—

Main line from Joliet to East St. Louis		243·5	miles.
Coal City branch, Joliet to Coal City		24·5	„
Washington „	Dwight to Washington	79·8	„
Louisiana „	Roodhouse, Ill., to Louis., Mo.	37·8	„
Jacksonville division, Bloomington to Godfrey, etc.		300·8	„
Total owned		686·4	„
Leased:	Joliet and Chicago RR.	37·4	„
„	Louisiana and Mo. River RR.	100·5	„
„	K.C., St. Louis & Chicago	161·8	„
Total operated		843·4	„

All these lines are in very superior condition, and constitute direct routes between Chicago and St. Louis, Chicago and Kansas City and St. Louis and Kansas City, and on all both local and through traffic has been developed in a remarkable degree.

Owing to the excellence of its service and its very moderate capitalisation the company has been in a position to pay unexcelled returns upon its capital under conditions both peculiar and trying. The Alton is situated in the focus of competition, and in addition to this it is frequently at sixes and sevens with all its rivals because it sternly refuses to enter into any mutual arrangement or to become a member of any association whatsoever. Numerous rate wars have been the result of this independent attitude, and the system has even been boycotted by all its competitors. But the Alton did not mind any retaliation, knowing full well that no other system could do it the slightest harm. It has the best road between Chicago, St. Louis, and Kansas City, a circumstance which naturally attracts patronage, and enables it to work profitably at rates that must be ruinous to its rivals; it has a very small capital, and can even with low rates still pay its usual annual dividend of eight per cent., and this enables the Alton to defy all other roads, a fact which President Blackstone and his lieutenants never hesitate to impress upon the enemy. They rule the property in a manner open to no criticism, and for the rest do not in the least care about the opinion or attitude of their competitors. They like to maintain rates, but fail to see that gentlemen's and other agreements are essential to attain that end; they will never reduce charges unless it is necessary, but, knowing that their road can work at low rates longer than any other, they fear no 'cut,' and as soon as they learn that any of their rivals has secretly reduced his rates they follow suit openly. It need hardly be said that the other roads do not like such independence, but since the Alton is the strongest they have to accept the situation as it is.

The capital of the Alton consists chiefly of shares, this company having for years past followed the English system of capitalisation, and endeavoured to keep its funded debt at the lowest possible level. The bonded debt amounts to not more than $13,000,000, and in January, 1893, $2,400,000 7 p.c. bonds will fall due, for which it is proposed to issue $2,500,000 stock; none of the other bonds having to run longer than 1900, there will in all probability be further conversions of the same kind. The capitalisation of the company is shown on the subjoined balance sheet, but in addition to its own bonds it is liable for some nine millions issued by leased companies, which, however, are all self-supporting. The Joliet and Chicago is leased for 1,000 years at a rental equal to 7 p.c. on its common stock, the Louisiana and Mo. River at 35 p.c. of gross earnings after deduction of taxes, and the Kansas City, Chicago and St. Louis for 1,000 years at 35 p.c. of gross receipts. Below are the usual tables showing traffic, earnings, income and balance sheet of the company for a series of years; their highly satisfactory nature is so evident that further comment is needless. The company's credit is so excellent that the average price of its common stock is 140, the lowest quotation on record since 1885—132—having been reached in 1890.

Table showing Passenger and Freight Movement and Revenue on the Chicago and Alton RR.

Year.	*Passengers.*			*Freight.*		
	Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1884.	119·9	1.90	2,278,429	627·7	1.01	6,073,675
1885.	109·0	2 25	2,209,502	538·5	1.01	5,432,633
1886.	114·3	2.02	2,311,041	580 8	.96	5,392,050
1887.	120·0	2 06	2,474,154	641·6	.95	6,070,639
1888.	118·0	1.88	2,221,105	533·8	.92	4,901,248
1889.	104·0	2.13	2,218,703	537·3	.92	4,932 297
1890.	117·0	1.79	2,098,760	519·7	.88	4,588,225
1891.	112·5	1.96	2,206,842	547·5	.91	4,998,115

	1891.	1890.	1889.
	$	$	$
Earnings—			
Passenger	2,206,842	2,098,760	2,218,703
Freight	4,908,115	4,588,225	4,932,297
Mail, express, etc.	385,924	378,769	365,617
Total gross earnings	7,500,881	7,065,754	7,516,617
Operating Expenses—			
Maintenance of way	861,101	982,940	1,163,158
Maintenance of cars	513,831	436,038	519,666
Motive power.	1,424,772	1,316,374	1,358,176
Transportation	1,650,046	1,646,648	1,530,736
Total (including taxes)	4,458,750	4,382,000	4,571,736
Net earnings	3,132,131	2,685,754	2,944,881
Percentage of op. exp. to earnings .	58·73	62·01	60·82

INCOME ACCOUNT.

	1891.	1890.	1889.
	$	$	$
Receipts—			
Net earnings	3,132,131	2,683,754	2,944,881
Other receipts	272,567	273,497	273,875
Total	3,404,698	2,957,251	3,218,756
Disbursements—			
Rentals paid	674,722	652,411	669,478
Construction, equipment, etc. . . .	200,220	184,271	159,810
Miscellaneous	88,742	189,227	38,059
Interest on debt	810,387	816,161	823,495
Dividends	1,407,560	1,407,560	1,407,712
Total disbursements	3,181,631	3,249,630	3,098,554
Balance	sur.223,067	df.292,379	sur.120,202

BALANCE SHEET, DECEMBER 31.

	1891	1890	1889
	$	$	$
Assets—			
Road and equipment.	32,178,922	32,178,067	32,177,746
Bonds and stocks owned.	3,884,636	3,865,020	3,816,636
Lands owned.	75,000	75,000	75,000
Materials and supplies	278,762	313,730	321,921
Sinking fund.	100,580	61,613	111,337
Bills receivable	53,597	79,106	94,503
Due from agents, individuals, etc. .	390,865	343,495	450,453
Cash.	1,324,722	935,796	1,370,508
Illinois Trust & Sav. Bank, trustee	1,500	1,500	1,500
Total assets.	38,288,584	37,853,927	38,464,604
Liabilities—			
Common stock.	14,115,000	14,115,000	14,115,000
Preferred stock	3,479,500	3,479,500	3,479,500
Joliet & Chicago stock, guar. . . .	1,500,000	1,500,000	1,500,000
Mississippi Bridge Co. stock, guar .	300,000	300,000	300,000
Funded debt	13,042,850	13,129,950	13,297,950
Bonds cancelled	2,118,100	2,081,000	1,863,000
Vouchers, accounts payable, etc. . .	613,314	526,783	544,176
Due other companies, etc.	242,542	117,461	418,706
Rentals accrued.	108,354	108,374	108,094
Real estate appropriations	120,000	120,000	120,000
Income account	2,646,576	2,423,510	2,715,890
Miscellaneous	2,347	2,348	2,448
Total liabilities	38,288,584	37,853,927	38,464,604

CHAPTER XXXVI.

THE CHICAGO, ROCK ISLAND AND PACIFIC RR.

The company preceding the present corporation and bearing the same name originated in 1852, in which year the project of building a railroad from Chicago to Rock Island on the Mississippi took definite shape. The road was completed within two years from the date of the charter, and soon after its opening the Mississippi and Missouri River RR. was chartered and begun under the auspices of the same company. This line was to run from Davenport, opposite Rock Island, to Council Bluffs, and to be connected with the Rock Island by means of a bridge across the Mississippi, constructed by another independent corporation, likewise supported by the Rock Island, which in this manner provided for a through route between Chicago and Omaha, where it was to meet the Union Pacific. The Mississippi and Missouri River RR. received considerable land grants in Southern Iowa—which afterwards became the property of the parent company—but the country it traversed being almost entirely unsettled its earnings proved insufficient to meet fixed charges, and in consequence its debt to the Rock Island gradually increased. Differences between debtor and creditor accelerated an amalgamation which was sure to have taken place sooner or later, and the line defaulted on its interest, was placed in the hands of a receiver, and sold in foreclosure in 1868. The Rock Island purchased the road for $5,500,000—this being the Mi. and Mo. Railroad's debt to it—and consolidated it with its own, acquiring the bridge in the meantime and changing the name of the consolidated property into that which it bears to-day. The main line was completed as far as Omaha by 1869, and thus Chicago obtained its second connection with the only Pacific railroad which existed in those days. The system was gradually extended after that, but no very notable addition was made until 1880, when it amalgamated with the Iowa Southern and Missouri Northern, a reorganisation of the Chicago and Southwestern which connected a branch of the old Chicago and Rock Island with Leavenworth, Kan., on the Missouri. Like the Mississippi and Missouri RR., this line was built under the auspices of the R. I. and became its debtor; and as the result of differences, relating to a branch to Atchison, sale in foreclosure took place in 1876, the Iowa Southern and Missouri Northern being the purchaser. This corporation was another offshoot of the Rock Island, to which its property was leased for fifty years, and in 1880 this lease was superseded by a consolidation of the company with the Chicago, Rock Island and Pacific, which in the meantime had constructed or purchased several branches, and now had some 1,380 miles of road, connecting two Missouri River points with Chicago, and further consisting of a line from Keokuk on the Mississippi to Des Moines in Iowa, and a number of other extensions. When the consolidation was effected old Rock Island shareholders received a stock dividend of 100 per cent.

Since 1880 the company has considerably increased its mileage, although little was done in that direction until the Chicago, Kansas and Nebraska railroad was leased. This road was begun in 1886 and completed in 1888, being built with the support of the Rock Island, which owned a controlling interest and had made large advances; the result was that when the company defaulted it was sold in foreclosure to the Rock Island, which assumed all its debt. The Chicago, Kansas and Nebraska had constructed railways connecting with Denver and the Indian Territory, and therefore was practically a Southwestern extension of the Rock Island, which in the meantime had also acquired some other lines, mostly in the Northwest, built new branches, and extended old ones. A result of these various extensions was that on April 30th, 1892, the company owned, leased and operated a system 3,456 miles in length and extending over eight states, as shown in the subjoined detailed statements.

Lines owned:	*Miles.*
Chicago, Ill., to Council Bluffs, Iowa.	498·81
Davenport, Iowa, to Atchison, Kan..	341·84
Edgerton Junc., Mo., to Leavenworth, Kan. . .	20·26
Washington, Iowa, to Knoxville, Iowa.	79·00
South Englewood, Ill., to South Chicago, Ill. . .	7·50
Wilton, Iowa, to Muscatine, Iowa.	11·98
Wilton, Iowa, to Lime Kiln, Iowa.	6·08
Newton, Iowa, to Monroe, Iowa.	17·00
Des Moines, Iowa, to Indianola and Winterset, Iowa	47·07
Menlo, Iowa, to Guthrie Center, Iowa.	14·58
Atlantic, Iowa, to Audubon, Iowa.	24·54
Atlantic, Iowa, to Griswold, Iowa.	14·71
Avoca, Iowa, to Carson, Iowa.	17·61
Avoca, Iowa, to Harlan, Iowa.	11·84
Mt. Zion, Iowa, to Keosauqua, Iowa.	4·50
Altamont, Mo., to St. Joseph, Mo.	49·66
South St. Joseph, Mo., to Rushville, Mo	14·70
Kansas City, Mo., to Armourdale, Kan.	2·40
South Omaha, Neb., to Lincoln, Neb.	54·79
Elwood, Kan., to Liberal, Kan..	439·54
Herington, Kan., to Minco, I. T.	246·97
Herington, Kan., to Salina, Kan.	49·30
Horton, Kan., to Roswell, Colo.	568·65
Fairbury, Neb., to Nelson, Neb.	51·53
McFarland, Kan., to Belleville, Kan.	103·98
Dodge City, Kan., to Bucklin, Kan.	26·64
Total owned.	2,725·48

Lines leased:		
Bureau Junc., Ill., to Peoria, Ill.	46·70	
Keokuk, Iowa, to Des Moines, Iowa	162·20	
Des Moines, Iowa, to Fort Dodge and Ruthven, Iowa	143·76	
Total leased		352·66
Trackage:		
Over Hannibal & St. Joseph RR.—		
Cameron, Mo., to Kansas City, Mo.	54·30	
Over Union Pacific Ry.—		
Council Bluffs, Iowa, to South Omaha, Neb.	7·02	
Lincoln, Neb., to Beatrice, Neb.	40·21	
Kansas City, Mo., to North Topeka, Kan.	67·35	
Limon, Colo., to Denver, Colo.	89·20	
Over Denver and Rio Grande RR.—		
Denver, Colo., to Pueblo, Colo.	119·60	
Total trackage		377·68
Total miles of road over which trains are operated		3,455·82

The system is located in different states as follows:—

	236·18	miles in Illinois.
	1,067·75	„ „ Iowa.
	286·35	„ „ Missouri.
	1,125·85	„ „ Kansas.
	241·14	„ „ Nebraska.
	376·36	„ „ Colorado.
	65·79	„ „ Indian Territory.
	56·40	„ „ Oklahoma.
	3,455·82	miles.
Add	200·73	„ of second track.
„	9·05	„ „ third track.
„	594·27	„ „ side track.
Equal to	4,259·87	„ „ single track.

The commodious 'depot' in Chicago, situated one block behind the Post Office and shared by the Lake Shore, is the easternmost passenger terminus of the system, the freight terminals being situated on the Chicago River and also in South Chicago. From Chicago a double-tracked main line connects with Rock Island, a branch leaving it about midway for Peoria.

Immediately after the fine iron bridge across the Mississippi is passed there is a bifurcation, one line going to Omaha via Des Moines, the other to Leavenworth, with branches to Kansas City and St. Joseph. These last two connect with the former Chicago, Kansas and Nebraska RR., which was purchased in 1891; the line from St. Joseph goes to Nelson in Nebraska, the one from Kansas City to Denver and Colorado Springs, connecting in the latter place with Pueblo by using the tracks of the Denver and Rio Grande. This Denver line passes Belleville and McFarlane, and as the former town has recently been connected directly with Omaha, traffic with Denver can be conducted either via Council Bluffs or via Kansas City. In McFarlane the line to the Indian Territory branches off, and a further division is effected at Herington, one road going to the western part of the territory, the other crossing it in the centre; we may mention that the latter route will be extended into Texas. Apart from these roads the company owns several branches, and a continuous line skirting the Mississippi and going from Keokuk via Des Moines and Fort Dodge to Ruthhaven, where it connects with the Burlington, Cedar Rapids and Northern (*q. v.*) and the Minneapolis and St. Louis for St. Paul and points to Dakota, as well as with two small roads in Minnesota owned by the Rock Island. These isolated branches are linked to the main body of the system by the Burlington, Cedar Rapids and Northern, mentioned before, which is intimately connected with the Rock Island. To sum up, the Rock Island connects Denver, the Indian Territory, Omaha, Kansas, Leavenworth, Des Moines, Keokuk, etc., with Chicago, and on the strength of close agreements with other roads it obtains access to St. Paul, Minneapolis, etc. It is within the bounds of possibility that the Burlington, Cedar Rapids and Northern and the Minneapolis and St. Louis will soon become part and parcel of the system; for all purposes of traffic they are so now.

As has been shown above, it is only recently that the

Rock Island has ventured upon considerable extensions. Until 1888 the road did not adopt the policy pursued by nearly every one of its rivals, and carefully abstained from extending its lines; and although until a few years ago the shareholders had no reason to regret this, the exceptional attitude which the Rock Island adopted was not without its drawbacks. The careful policy had this advantage that the road attained maturity at a very early date, and not being burdened with a heavy capitalisation the company was able to distribute good and regular dividends, while most of its rivals, who invested vast sums in young and unremunerative branch lines, were not in a position to offer the same returns upon capital. In this respect, therefore, the Rock Island is in a situation similar to that of the Chicago and Alton, but there can be no doubt that in the long run no Northwestern system can exist without feeders. The Alton is the only exception to this rule, chiefly because it is the shortest route between three towns of prime importance, and because it draws traffic from Southwestern lines of which it is in no way a competitor. The necessity of extension has presumably been most forcibly impressed upon the managers of the Rock Island by the fact that in spite of the rapid development of the country tributary to their road, freight business showed a very small increase which offered no compensation for the decline in rates. Traffic grew a little, but rates shrank considerably, and this urged the management to extend their system. Although an eye was kept on the Northwest, it was seen that the Southwest offered the best prospects, and lines were accordingly sent into 'No Man's Land.' As in all analogous cases, these new roads absorbed capital without at first yielding returns, and hence it was only natural that the regular 7 p.c. dividend paid until 1887 was reduced to 4 p.c. in 1889-90-91, and in 1891-92, when no interest was received from what was formerly the Chicago, Kansas and Nebraska RR., to 3 p.c. But this result was inseparable from a policy that cannot be designated otherwise than as expedient. The Rock Island was on the horns of a dilemma. It could continue its old course, which would have led to slow financial deterioration; or it could change its policy and provide for a future supply of vitality by sacrificing part of its present prosperity. Which choice was the best it is easy to see.

Below are the customary statements:—

Freight and Passenger Movement, Rates and Revenue on the Chicago, Rock Island and Pacific RR.

Years end Mar. 30	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1884	1,384	128·8	2.57	3,313,449	734·6	1.10	8,056,316
1885	1,383	122·6	2.47	3,023,884	781·0	1.40	8,144,142
1886	1,383	129·2	2.42	3,127,258	719.9	1.07	7,713,659
1887	1,384	133·0	2.33	3,097,916	795·8	1.01	8,037,452
1888	1,527	142·6	2.34	3,469,501	941·7	0.93	8,801,354
1889	1,538	146·3	2.21	3,367,001	874·6	0.97	8,440,420
1890	3,267	195·6	2.28	4,613,823	1,157·4	1.02	11,828,794
1891	3,408	208·6	2.19	4,762,894	1,134·5	1.01	11,513,845
1892	3,456	218·9	2.29	5,216,761	1,167·2	1.05	12,289,636

EARNINGS AND EXPENSES.

	1891-92. $	1890-91. $	1889-90. $
Earnings—			
Passengers	5,216,761	4,762,894	4,613,822
Freight	12,289,636	11,513,845	11,828,794
Mail, express, rentals, etc.	1,183,678	1,196,895	1,196,445
Gross earnings	18,690,075	17,473,634	17,639,061
Operating expenses and taxes	13,147,057	12,413,794	12,475,067
Net earnings	5,543,018	5,059,840	5,163,994
Percentage of operating expenses to earnings	70·34	71 04	70 72

INCOME ACCOUNT.

	1891-92.	1890-91.	1889-90.
	$	$	$
Receipts—			
Net earnings	5,543,019	5,059,840	5,163,994
From land department	70,000	98,650	91,350
Premium on bonds, etc.	——	——	35,950
C. Kan. & Neb. interest	52,200	1,216,662	1,209,640
Total income	5,665,219	6,375,152	6,500,934
Disbursements—			
Rent leased roads	774,181	1,871,744	1,784,024
Interest on debt	2,813,325	2,714,960	2,625,550
Missouri River bridges	143,858	188,538	195,580
Dividends	1,384,674	1,846,232	1,846,228
Rate per cent	(3)	(4)	(4)
Miscellaneous	625	369	——
Total disbursements	5,116,663	6,621,833	6,451,832
Balance	sur.548 556	def.246,681	sur. 49,542

Condensed Balance Sheet, April 1st, 1892.

CREDIT BALANCES.

Liabilities—		
Capital stock fixed $50,000,000; amount issued	$46,155,800.00	
Fractional scrip outstanding, convertible into stock	200.00	$46,156,000.00
Six per cent. mortgage coupon bonds	$4,730,000.00	
Six per cent. mortg. registered bonds	7,770,000.00	12,500,000.00
Five per cent. extension coupon bonds	$31,447,000.00	
Five per cent. extension regist. bonds	4,405,000.00	35,852,000.00
Five per cent. debenture coupon bonds	$1,995,000.00	
Five per cent. debenture regist. bonds	5,000.00	2,000,000.00
Chicago & Southwestern Ry. bonds guaranteed		5,000,000.00
Addition and improvement account		8,213,000.00
Accounts payable		1,552,509.04
Profit balance of income account		819,172.22
Total		$112,092,681.26

(*Continued next page.*)

DEBIT BALANCES.

Assets.

Cost of road and equipment, including all branch roads owned by the company	$97,586,593.22
Cost of railroad bridge at Rock Island	758,526.10
Cost of Southern extension (road in process of construction South of Minco, I. T.)	354,130.30
Capital stock and bonds of connecting roads	8,755,640.35
Loans and other investments	527,565.06
C. R. I. & P. Ry. Co. capital stock on hand	12,100.00
C. R. I. & P. Ry. Co. six per cent. mort. bonds on hand	400,000.00
C. R. I. & P. Ry. Co. five per cent. exten. bonds on hand	747,000.00
Sinking fund account, first mortgage extension and collateral five per cent. bonds purchased	169,000.00
Stock of material, fuel, etc., on hand	1,206,137.06
Due from Post Office Department	108,581.23
Accounts receivable	904,349.53
Cash and loans (payable on demand)	563,056.39
Total	$112,092,681.26

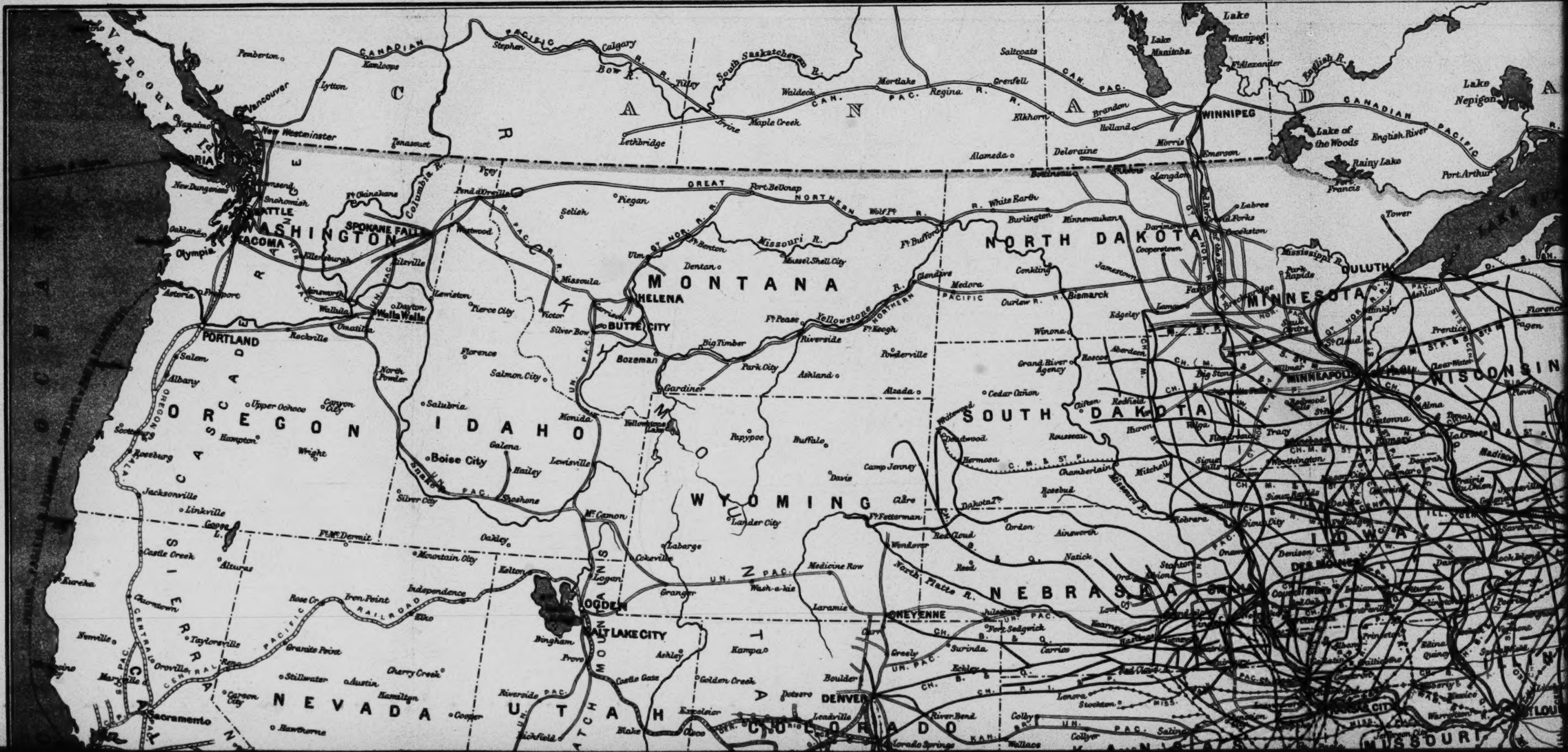
CHAPTER XXXVII.

THE MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE.—THE DULUTH, SOUTH SHORE AND ATLANTIC.

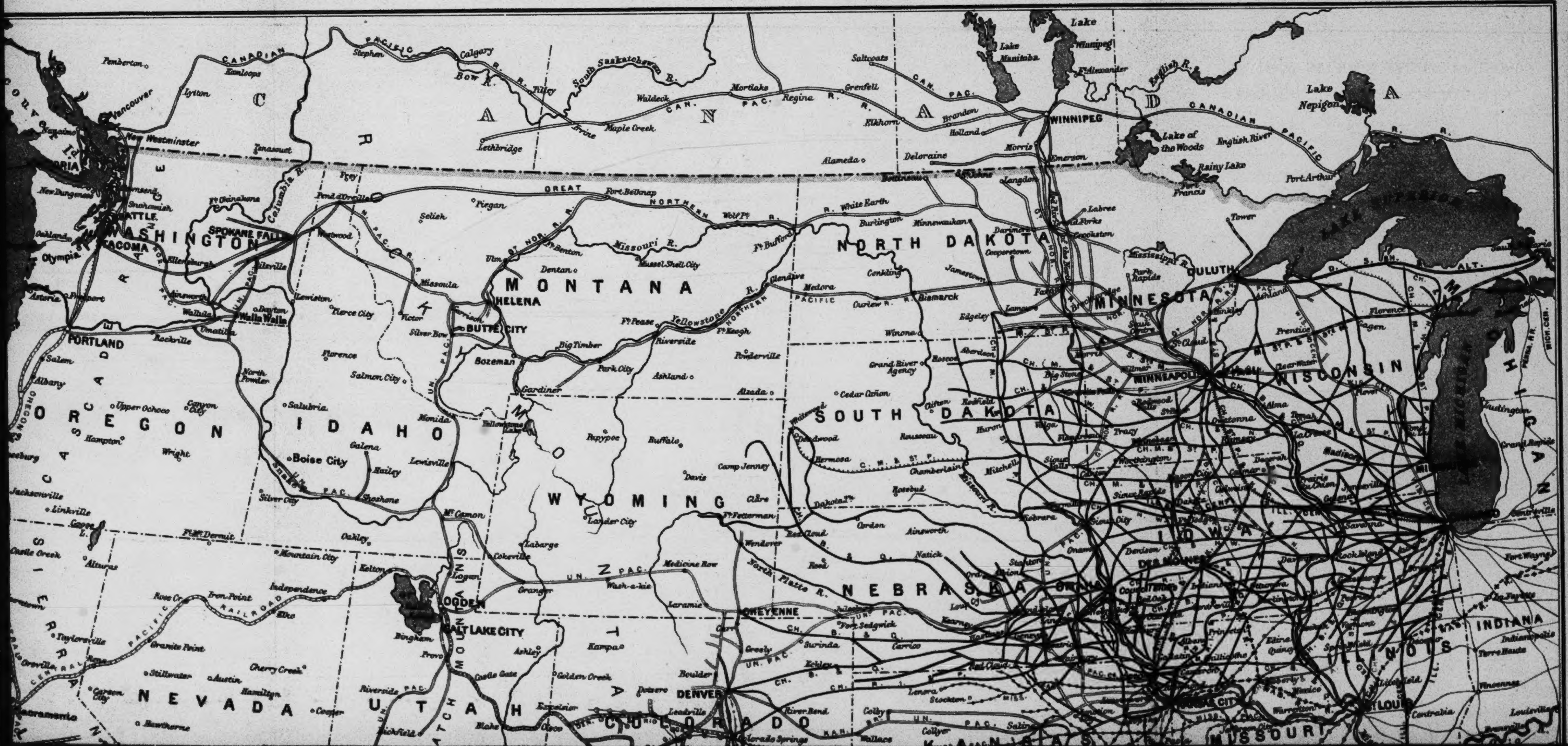
The control which the Canadian Pacific has obtained over the 'Soo' and 'South Shore' lines, thereby practically rendering them parts of its great transcontinental system, has had far-reaching consequences for all lines engaged in Northwestern business. As is well known, Chicago has for many years past enjoyed the distinction of being the commercial outlet of the West. That portion of the produce which was intended to go to the East, either for consumption there or for shipment to Europe, was ultimately collected in the metropolis of the Lakes, and all the great Northwestern railroad systems have been built to gather freight at local points and to carry it to the giant city on Lake Michigan. But when the Northwestern railroads were projected, their sponsors apparently overlooked the fact that it was possible to establish routes to the East which did not touch Chicago, and in the same degree as the population of the region in the proximity of the Canadian border increases, this oversight becomes more and more manifest; for not only does Chicago [cease to enjoy the distinction of being the sole outlet of the Northwest, but there are other routes between certain parts of that region and the seaboard which offer distinct advantages chiefly because they do *not* lead via Chicago. A glance at map 1 will show that the shortest overland route between the seaboard and the Northern part of Dakota, Minnesota and

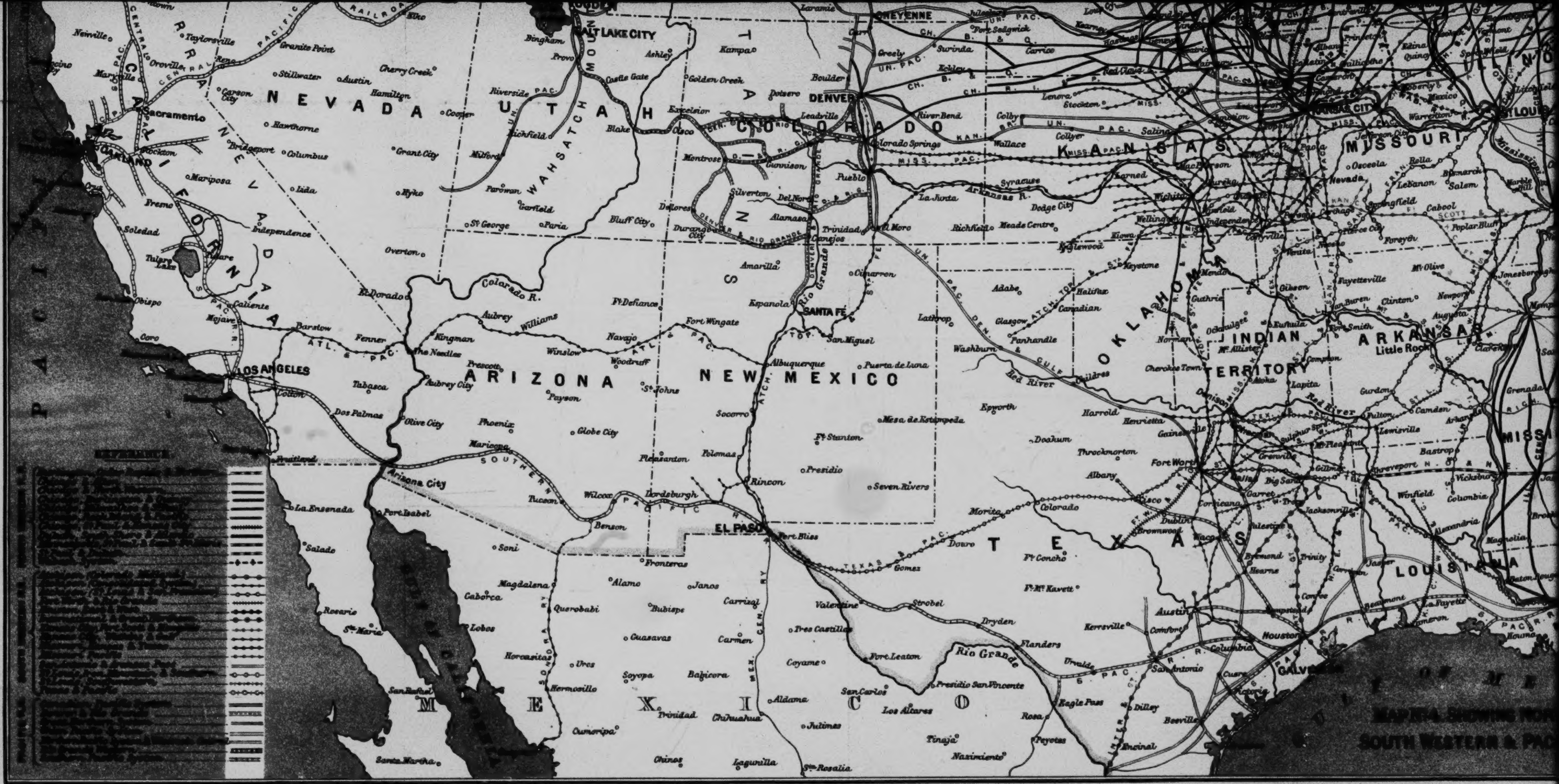
Wisconsin runs through the Michigan Peninsula instead of via Chicago, and hence it is clear that through traffic with the East can be conducted more profitably via Sault Ste. Marie than via Chicago.

The projectors of the two railways connecting Northwestern points with St. Ignace on the Straits of Mackinaw and with Sault Ste. Marie on the 'Soo' Canal, availed themselves of this geographical advantage, and built railroads which, connecting with the Michigan Central and the Canadian Pacific-New York Central (see p. 200) constitute the shortest route between St. Paul, Minneapolis, Duluth, etc., on the one hand, and New York and Boston on the other, the difference amounting to two hundred miles in some instances, and in the case of Duluth to over four hundred. Now, the twin cities and Duluth are terminals of the Northern Pacific and Great Northern, which carry large volumes of freight to these towns, and, moreover, Minneapolis is a vast producer of flour; therefore it is not only evident that the two lines to the 'Soo' are in a position to get freight despite the animosity of others engaged in Northwestern through business, but possessing the shortest route they even have an advantage which no amount of discrimination can prevent from asserting itself. For these reasons the Canadian Pacific, which at that time by virtue of its connections with the Ogdensburg, Central Vermont, and Ontario and Western RR. could compete for Northwestern traffic with the seaboard, was anxious to obtain control of these two roads, and when it had attained this end the situation became still more disadvantageous to the American lines. This was the case because of a curious anomaly which of late has been prominently denounced as the most irksome result of the Interstate Commerce Act. Under the Fourth Clause of that Act (p. 46) it is unlawful for a railway to charge more for the short haul than for the long, and hence no reduction of a through rate is possible without a corresponding lowering of local tariffs; if any road in combination



Vancouver I.
Pemberton
CANADIAN PACIFIC R.R.
Kamloops
Lytton
Vancouver
Nanaimo
New Westminster
Stephen
Calgary
Bow R.
Tilley
South Saskatchewan R.
Lethbridge
Irvine
Maple Creek
Waldeck
Mortlake
Regina
Grenfell
Saltcoats
Elkhorn
Brandon
Holland
Lake Manitoba
Lake Winnipeg
Ft. Alexander
WINNIPEG
Morris
Emerson
Deloraine
Alameda
English R.
Lake of the Woods
English River
Rainy Lake
Ft. Francis
Port Arthur
Lake Nepigon
C A N A D A
Tower
DULUTH
New Dungeness
Townsend
Snohomish
SEATTLE
Oakland
Olympia
TACOMA
WASHINGTON
SPOKANE FALLS
Ellensburgh
Ainsworth
Wallula
Walla Walla
Dayton
Umatilla
Astoria
Rainier
PORTLAND
Rockville
Salem
Albany
OREGON
CASCADE
Upper Ochoco
Canyon City
Hampton
Wright
Scottsburg
Roseburg
Jacksonville
Linkville
Goose L.
Castle Creek
Alturas
Ft. McDermit
Eureka
Ft. Colville
Columbia R.
Pend d'Oreille
Westwood
Lewiston
Pierce City
Florence
Salmon City
Salubria
IDAHO
Boise City
Galena
Hailey
Lewisville
Shoshone
Silver City
Snake R.
North Powder
Missoula
Victor
Silver Bow
BUTTE CITY
HELENA
Ulm
Ft. Benton
Dentan
Missouri R.
Mussel Shell City
MONTANA
Bozeman
Big Timber
Gardiner
Park City
Yellowstone R.
Ft. Pease
Riverside
Ft. Keogh
Glendive
Ashland
Powderville
Alzada
Selish
Piegan
GREAT NORTHERN R.R.
Ft. Belknap
Wolf Pt.
Ft. Buford
White Earth
Burlington
Minnewaukan
NORTH DAKOTA
Cooperstown
Jamestown
Conkling
Medora
Curlew
Bismarck
NORTHERN PACIFIC
Fargo
Langdon
Grand Forks
Mississippi R.
MINNESOTA
St. Cloud
MINNEAPOLIS
Winona
Grand River Agency
Cedar Cañon
SOUTH DAKOTA
Aberdeen
Huron
Mitchell
Sioux Falls
Deadwood
Hermosa
Chamberlain
Rosebud
Dakota T.
Yellowstone Lake
Monida
Papypoe
Buffalo
Camp Jenney
Davis
WYOMING
Lander City
Ft. Fetterman
Red Cloud
Niobrara
Sioux City
Ainsworth
Natick
Wendover
Medicine Row
Laramie
CHEYENNE
North Platte R.
NEBRASKA
OMAHA
Council Bluffs
Denison
DES MOINES
IOWA
WISCONSIN
Florence
Prentice
La Crosse
Madison
Dubuque
Rock Island
Quincy
ILLINOIS
ST. LOUIS
MISSOURI
KANSAS CITY
Ft. Sedgwick
Greely
Boulder
DENVER
Leadville
Colorado Springs
COLORADO
Colby
Collyer
Wallace
Salina
KANSAS
Kelton
Mountain City
Independence
Elko
Iron Point
Rose Creek
CENTRAL PACIFIC RAILROAD
OGDEN
SALT LAKE CITY
Bingham
Provo
Logan
Granger
Wash-a-kie
Ashley
Kampa
Golden Creek
Potsero
Castle Gate
Riverside
Richfield
Blake
Excelsior
UTAH
WAHSATCH MOUNTAINS
NEVADA
Reno
Granite Point
Stillwater
Austin
Cherry Creek
Hamilton
Cooper
Hawthorne
Carson City
Taylorsville
Oroville
Marysville
Sacramento
SIERRA NEVADA
UN. PAC.
Cokeville
Laberge
Oakley
Mc Cammon
PACIFIC OCEAN


CANADIAN PACIFIC R. R.
CANADA
WASHINGTON
OREGON
IDAHO
MONTANA
WYOMING
NORTH DAKOTA
SOUTH DAKOTA
MINNESOTA
WISCONSIN
MICHIGAN
IOWA
NEBRASKA
NEVADA
UTAH
COLORADO
KANSAS
MISSOURI
ILLINOIS
INDIANA
Vancouver
New Westminster
Victoria
Seattle
Tacoma
Olympia
Portland
Astoria
Salem
Albany
Spokane Falls
Walla Walla
Kamloops
Lytton
Calgary
Lethbridge
Maple Creek
Medicine Hat
Regina
Moosejaw
Brandon
Winnipeg
Emerson
Lake Manitoba
Lake Winnipeg
Lake of the Woods
Rainy Lake
Lake Nepigon
Port Arthur
Lake Superior
Lake Michigan
Duluth
St. Paul
Minneapolis
Milwaukee
Chicago
Helena
Butte City
Bozeman
Missoula
Great Northern R. R.
Northern Pacific R. R.
Missouri R.
Yellowstone R.
Fort Benton
Fort Buford
Glendive
Miles City
Bismarck
Jamestown
Fargo
Grand Forks
Mandan
Pierre
Deadwood
Boise City
Hailey
Shoshone
Salt Lake City
Ogden
Provo
Cheyenne
Laramie
Denver
Colorado Springs
Leadville
Omaha
Council Bluffs
Des Moines
Kansas City
St. Louis
Sioux City
Sioux Falls
Lincoln
Union Pacific
Central Pacific Railroad
Sacramento
Carson City
Indianapolis
Terre Haute
Fort Wayne
Louisville


MAP No. 4, SHOWING ROU
SOUTH WESTERN & PAC
REFERENCE
PACIFIC
CALIFORNIA
NEVADA
UTAH
COLORADO
KANSAS
MISSOURI
ARIZONA
NEW MEXICO
OKLAHOMA
INDIAN TERRITORY
ARKANSAS
TEXAS
LOUISIANA
MEXICO
GULF OF MEXICO
GULF OF CALIFORNIA
SIERRA NEVADA
WAHSATCH MOUNTAINS
Colorado R.
Rio Grande
Red River
Arkansas R.
Salt Lake City
Ogden
Denver
Cheyenne
Kansas City
St. Louis
Sacramento
Oakland
Stockton
Los Angeles
Santa Fe
Albuquerque
El Paso
Fort Worth
Dallas
Austin
San Antonio
Houston
Galveston
Little Rock
Shreveport
Pueblo
Colorado Springs
Leadville
Wichita
Tucson
Phoenix
Prescott
Yuma
Arizona City
Chihuahua
Hermosillo
UN. PAC.
CENTRAL PACIFIC
ATL. & PAC.
SOUTHERN PACIFIC
TEXAS & PAC.
DENVER & RIO GRANDE
ATCH. TOP. & STA. FE
MISS. PAC.
MEX. CEN. RY.
SONORA RY.
INTER. & GT. N.
G. PAC.

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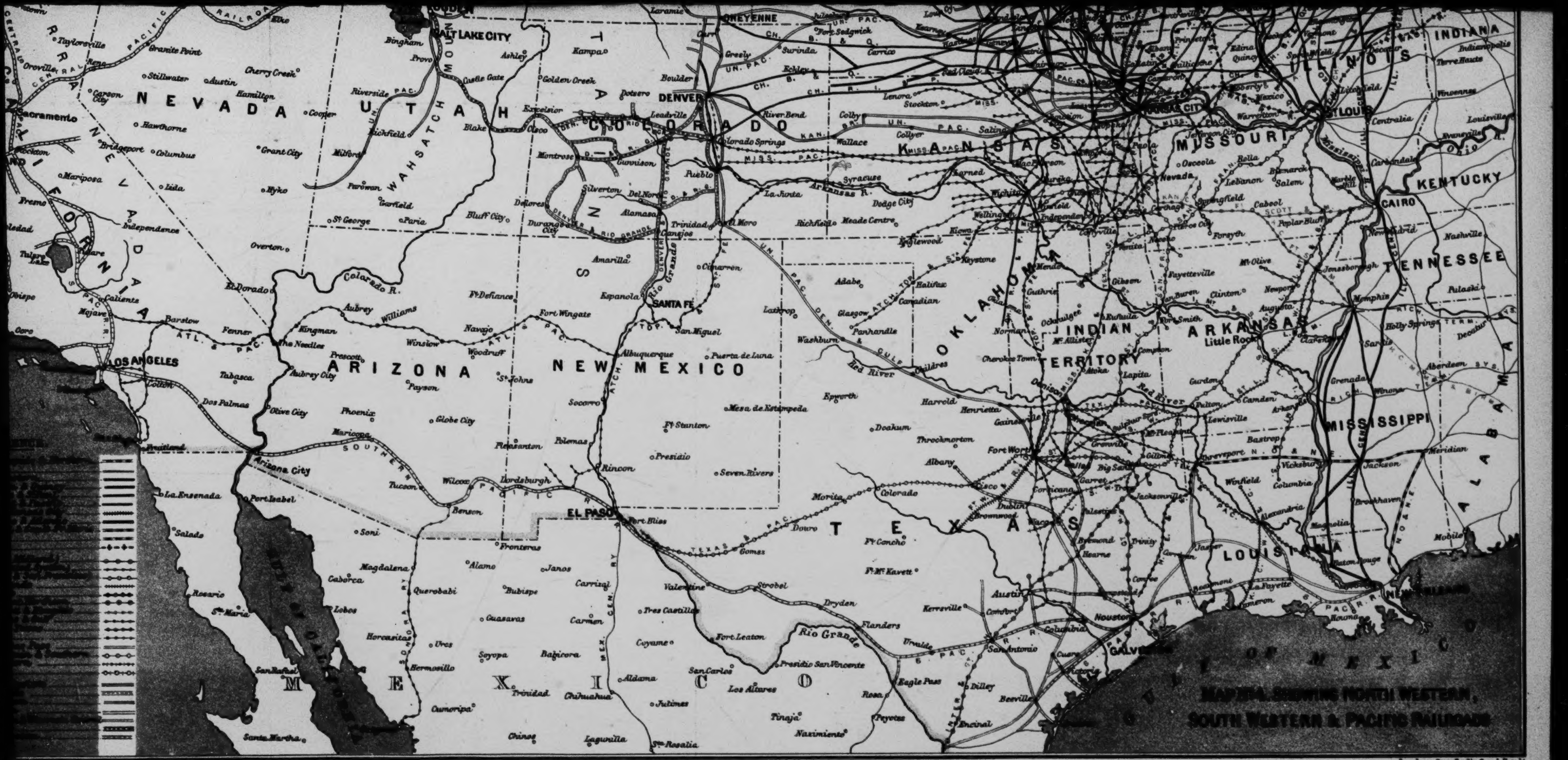
NEVADA
UTAH
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ILLINOIS
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KENTUCKY
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CALIFORNIA
ARIZONA
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OKLAHOMA
INDIAN TERRITORY
ARKANSAS
MISSISSIPPI
ALABAMA
TEXAS
LOUISIANA
MEXICO
GULF OF MEXICO
SIERRA NEVADA
WAHSATCH MOUNTAINS
Sacramento
Salt Lake City
Ogden
Cheyenne
Denver
Colorado Springs
Pueblo
Leadville
Santa Fe
Albuquerque
Los Angeles
Kansas City
St. Louis
Cairo
Memphis
Little Rock
Fort Worth
Austin
Houston
Galveston
San Antonio
El Paso
New Orleans
Mobile
Jackson
Vicksburg
Shreveport
Tucson
Arizona City
The Needles
Colorado R.
Rio Grande
Red River
Arkansas R.
Ohio R.
MAP No. 4. SHOWING NORTH WESTERN, SOUTH WESTERN & PACIFIC RAILROADS

London: Stanford's Geog¹ Estab¹

with another makes through rates of $105 per car for wheat from St. Paul to the seaboard it cannot charge more to any intermediate point, and whereas the through rate would ward off the competition of the 'Soo' lines, and on account of the vast volumes of freight offering perhaps might also pay, the same rate made for local points would not. Now, the combination of lines to which the Canadian Pacific is a party can make practically any rate it likes. The C. P. lies outside the jurisdiction of the Washington Congress, and if it chooses to make a $80 or $90 rate it can do so without risk of any of its American connections being compelled to reduce local tariffs, the apportionment of rates between the several parts of the Canadian Pacific through route being a matter which lies, of course, beyond the scrutiny of American Courts. These '$90 a car' rates are made frequently and openly, and they pay for through trains run along the 'Soo' line, the Canadian Pacific, the R., W. & O., and the West Shore; they would also leave profits to any combination that might be formed by lines leading from St. Paul to Chicago on the one hand and trunk lines on the other, and even if unremunerative it might be desirable for these roads to make them in order not to lag behind the competitor. But unfortunately, if St. Paul were to get a special rate, all points between that town and Chicago would claim the same, and there would be a heavy loss on local business. For this reason the Northwestern roads can do little more than complain. This they do. In the St. Paul's report for 1891, for instance, President Miller remarks: "Maintenance of rates will not relieve American Railways from the disastrous effects of the competition of foreign railways, for legislation has tied up American Railways and leaves foreign railways free to carry off their traffic. American Railways are compelled either to reduce through rates, under penalty of probably reducing intermediate rates, or pay subsidies to foreign railways, or lose the traffic." In the Burlington report President Blackstone advances arguments and offers criticism of a similar kind, and all Northwestern railroad men speak in the same strain. But meanwhile the 'Soo' lines continue to make any rate they like, and consequently retain their advantage over the Granger roads. This evil surely demands the early attention of Congress.

The advantages which the two "Soo" lines enjoy are, however, almost wholly transferred to the Canadian Pacific, which has the power to "farm" them, and derives more profit from the alliance than the lines themselves. In this connection the following extract from the report of the Canadian Pacific for 1891 is of some interest:—

"The result of the working of the Minneapolis, St. Paul & Sault Ste. Marie and the Duluth, South Shore & Atlantic railways for the past year confirms the belief of your directors that these two most important feeders will not only be no burden upon your company, but will, aside from the business contributed to your railway, be a source of handsome profit for their respective shareholders. The earnings of the first-named line for the past year increased 29·3 per cent. over 1890. The earnings of the last-named line, which have hitherto been largely obtained from the carriage of iron ore, suffered severely from the prostration which prevailed throughout the year in the iron trade, but the loss was made good by the increase in general traffic, and this, together with the revival in the iron trade, gives promise of largely increased earnings and profits for the present year."

The *Minneapolis, St. Paul and Sault Ste. Marie RR.* is a consolidation of the Minneapolis, Sault Ste. Marie and Atlantic, the Minneapolis and Pacific, the Minneapolis and St. Croix, and the Aberdeen, Bismarck and Northwestern RR. companies, which were amalgamated in 1888, and constitute a through route between the 'Soo,' the twin cities, and points West thereof. Since 1888 the lines have been extended into Dakota, and it is authoritatively stated that the Canadian Pacific is now building a road which will meet the Dakota extension, so that it will obtain a double route to the West. At present the roads are 884 miles long, and run from a little East of Bismarck, Dak., to Sault Ste. Marie and St. Ignace, via Minneapolis and St. Paul. The company's capital consists of $14,000,000 common stock and $7,000,000 preferred, neither of which has hitherto received a dividend. The bonded debt is composed of various descriptions of 4 p.c. gold bonds to the aggregate amount of $18,000,000 guaranteed by the Canadian Pacific, after their interest had been reduced from 5 to 4 per cent. This reduction was effected with the consent of a majority of bondholders, but was nevertheless a high-handed measure; a test suit against the company was brought by a dissenting bondholder, and the decision has been in his favour, so that difficulties must be anticipated. The company earned in 1891: gross $2,590,896, net $990,016. Interest charges required $846,036, rentals $115,364, and the surplus was $28,616. In 1890 net earnings amounted to but $669,004.

The *Duluth, South Shore and Atlantic* runs from Duluth to Sault Ste. Marie, has a branch to Houghton in the copper district, and direct connection with St. Ignace. The line, which is 589 miles long, has a heavy mineral, lumber, and wheat traffic, and is controlled by the Canadian Pacific through indirect ownership of a majority of stock. The share capital is divided into $12,000,000 common and $10,000,000 preferred 6 p.c. non-cumulative shares. The bonded debt now amounts to $3,476,000 6 p.c. currency bonds of three descriptions, of which the greater portion mature in 1923 and 1925, $4,000,000 5 p.c. gold, due in 1937, and $1,354,500 4 p.c. currency due December, 1892. Total issued: $8,800,500. When they fall due these bonds will be replaced by 4 p.c. general mortgage gold bonds, a general mortgage of $20,000,000, which is guaranteed by the Canadian Pacific, having been authorised. Earnings for the last two years have been:— 1890, gross $2,241,097, net $818,393; 1891, gross $2,160,118, net $827,826.

CHAPTER XXXVIII.

OTHER NORTHWESTERN SYSTEMS.

The Chicago Great Western RR.

Among the more important systems of the Northwest this is the youngest, having been started as recently as 1886. The first year it operated 355 miles, in 1887, when the Minnesota and Northwestern (chartered 1854) was absorbed, 608; at present the mileage amounts to 922 miles, all of which is in excellent condition. Until quite lately the system was known as the Chicago, St. Paul and Kansas City RR., its lines interconnecting the three cities after which the company was named by means of as many roads meeting in Oelwein. The line has no branches worth speaking of, and consequently depends almost entirely on through traffic, a fact which accounts for its exceptionally low average freight rates; nevertheless the company has a very fair traffic, its freight business having developed to such a degree that it is only exceeded (per mile of road) by that of two other Northwestern systems, the Alton and Chicago and Northwestern. An extension of the system to Omaha and other points has been planned, and to provide for the required funds the Chicago Great Western RR. Co. was formed with a capital of $30,000,000 4 p.c. cumulative preferred stock. $30,000,000 5 p.c. non-cumulative stock, and $40,000,000 common stock. It is intended to convert the income bonds and the stock of the Chicago, St. Paul and Kansas City Railroad Company into the common stock of the Chicago Great Western, the second mortgage bonds into preferred stock, and the first mortgage bonds into first preferred stock.

The plan also contemplates the raising of $3,000,000 in cash against a like amount of preferred stock at par in the nature of a voluntary assessment on the income bonds, and it is reported that more than two-thirds of the holders of these bonds have signified their approval of the scheme. A general mortgage bond will receive $1,080 in preferred stock. An income bond will be assessed $150 in cash, for which cash payment preferred stock will be given and the bond exchanged for $2,000 of common stock. The $14,892,900 of common stock will be assessed $15 a share, receiving preferred stock for the cash paid and new common for old.

Below are details of the company's capitalisation, traffic, and earnings. It will be seen that the latter show a most satisfactory increase, but nevertheless no returns upon capital have been made since 1890, a fact explained by the deficits up to 1889 which, however, were effaced in the last two years. Interest on most bonds has been paid in scrip (priority loan) with consent of holders, cash payment having been suspended until Jan., 1893. It is quite superfluous to remark that in view of the suspension of interest, of the low rates, of the small net result and especially of the inflated capital the securities of this company deserve little recommendation.

Passenger and Freight Movement of the Chicago, St. Paul and Kansas City RR.

Years end June 30.	Average mileage operated.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue, — $
1887	355	8·1	3.00	—	71·1	1 12	—
1888	608	22·3	2.34	527,666	187·0	.80	1,504,550
1889	750	27·7	2.23	688,962	197·3	.95	1,871,453
1890	845	42·1	2.02	930,959	423·8	.72	3,046,698
1891	887	43·0	2.20	1,040,833	391·5	.79	3,077,738
1892	922	45·5	2.19	1,102,858	459·8	.80	3,667,921

EARNINGS, EXPENSES, ETC.

	1891-92. $	1890-91. $	1889-90. $	1888-89. $
Earnings—				
Passengers	1,102,858	1,040 833	930,959	688,962
Freight	3,667,921	3,077,738	3,046,659	1,871,453
Mail, express, etc.	253,961	242,280	248,007	217,570
Total earnings	5,024,740	4 360 851	4,225,625	2,777,985
Operating expenditure and taxes.	3,764,677	3,378,340	3 265 885	2,140,080
Net income	1,260,063	982,511	959,780	637,905
Deduct—				
Interest	128,816	*92,276	*54,590	871,879
Rentals	477,038	355 291	296,235	236,825
Total	605,854	447,567	350,825	1,108,704
Balance	sur.654,209	sur.534,944	sur.608,955	def.470,799

* This interest is on the three-year notes, 5 per cent. priority loan, and collateral notes.

GENERAL BALANCE SHEET, JUNE 30.

	1892 $	1891 $	1890 $	1889 $
Assets—				
Cost of road and terminals	43 287,025	42,888,883	42,143,790	40,889,478
Cost of equipment	2,017,003	2,017,003	2,017,003	2,009,623
Leased equipment	1,742,429	1,534,540	——	——
Accounts receivable, fuel, etc.	695,029	638,057	469,323	401,306
Cash	13,054	40,249	252,797	145,108
Funded interest on first mort.	2,823,150	1,882,100	941,050	——
Funded interest on genl. mort.	438,365	438,365	442,264	——
General mortgage 4s, owned	——	5,214,000	——	——
Expenses of funding scheme	108,192	82,723	54,898	——
Balance of income account	——	——	——	731,358
Total	51,124,244	54,735,920	46,321,125	44,176,873
Liabilities—				
Stock	14,892 900	14,892,900	14 892,900	14 892,900
Bonds and notes	31,764,850	36,284,670	30,108,750	27,877,700
Equipment warrants	1,723,431	1,524,540	——	——
Coupons	4 425	11 725	6,565	495,710
Vouchers, pay-rolls and curr. acc.	940,532	878,187	703,955	910,563
Balance of income account	1,798,109	1,143,899	608,955	——
Total	51,124,247	54,735,920	46,321,125	44,176,873

Share capital and funded debt of the *Chicago, St. Paul and Kansas City RR.*

Share capital	$14,892,000
Funded debt:	
* Priority sterling loan, due 1934, 5 p c. gold	2,823,000
* Minneapolis & Northwestern 5 p.c. gold first mortgage	9,628,000
* Ch., St. P., & K. C. first gold mortgage 5 p.c.	9,328,000
Gen. mortgage 4 p.c. gold	4,883,000
Income bonds (conv. into 5 p.c. pref. stock)	4,981,700
Equipment lease warrants	1,723,431
Total	$48 264,131

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* = Quoted in London.

THE NORTHERN PACIFIC AND WISCONSIN CENTRAL RAILROADS.

The Northern Pacific being a transcontinental railroad, it need scarcely be said that a discussion of its affairs properly belongs to another part of this work. Nevertheless, the position it occupies in Northwestern business life is so important that reference to it may not be omitted here. The tendency among American railroads is towards the development of local traffic, and the N. P. makes vigourous efforts in that direction, with the result that such business is rapidly increasing in three distinct and different parts of the system.

The development of local traffic has been especially marked on the company's Northwestern lines, which have been considerably extended in recent years, partly by building feeders in North Dakota, and partly by acquisition of the N. P. and Manitoba, which gives access to some of the best parts of Dakota and Manitoba. The result has been that the position of the Northern Pacific as a factor in Northwestern transportation business has gained in importance to an appreciable extent. The connection with the fertile wheat lands of the Red River Valley and Manitoba and several extensions in North Dakota which are rapidly increasing in mileage seem to denote that the management intends to stimulate local traffic and to construct a dense network of lines in a State which hitherto has had but a small proportion of its soil under cultivation, although it offers practically the same advantages and prospects as Minnesota or Nebraska: we mean, of course, North Dakota. This State, to the needs of which the Northern Pacific, in competition with its rival the Great Northern, seems to pay special attention, lies North of the region especially cultivated by the St. Paul, and contains the finest wheat lands and some of the most beautiful timber in the world; this produce being carried to Duluth or the twin cities, it follows that the Northern Pacific is as little to be despised as a local line as in its capacity of a transcontinental route.

In both respects, however, its importance has been augmented by the lease of the Wisconsin Central Company, which long before the formal addition of its lines to the N. P. system was controlled by the same interest as its present lessee, namely, the Villard group, which enjoys the support of Mr. John D. Rockfeller, the notorious originator of the Standard Oil Company. The Wisconsin Central Company gives the Northern Pacific a direct entrance into Chicago, where it meets the Baltimore and Ohio as a direct connection with the East. This trunk line and the Chicago and Great Western uses its Chicago terminals.

The Wisconsin Central *Company* owns 239 miles of railroad and leases the Wisconsin Central *RR.* and other lines, the whole being operated as one system connecting Chicago with St. Paul and Ashland, and meeting the Northern Pacific at both points. The system is composed of four main parts, as follows:—

Wisconsin Central Railroad	389	miles
,, ,, Company's lines	239	,,
Chicago, Wisconsin and Minnesota RR.	148	,,
Chicago and Lake Winnebago RR.	76	,,
Total. . .	852	,,

The securities of the *Railroad* Company are virtually all owned by the Wisconsin Central Company; the consolidated balance sheet and income account to be found in the supplement show the company's condition.

MINOR NORTHWESTERN RAILROADS.

The Northwestern, St. Paul, Burlington, Rock Island, Wabash, Alton and Great Western systems and the 'Soo' lines are the principal carriers of freight in the Northwest, but they by no means monopolise the transportation business of that vast region; apart from the great systems just enumerated there are others which either locally or as through routes are of some importance, and for that reason it is necessary to devote a separate chapter to them.

It will be most convenient to divide these lines into two groups, one consisting of purely local lines, the other of railways which are factors in Northwestern through business without being Northwestern roads. To this last class belong the Atchison, Illinois Central, Great Northern, Union Pacific and Northern Pacific; the other class includes the Burlington, Cedar Rapids and Northern, the St. Paul and Duluth, the Iowa Central, the Omaha and St. Louis, and several others. Eight or ten years ago the list of minor local systems would have been a very long one, but the process of amalgamation and consolidation which has been especially noteworthy in this section has perceptibly decreased the number of independent lines, and will in all probability reduce it still more.

First as to the through routes. The *Atchison* is a transcontinental road and a Southwestern system in one, but nevertheless it competes vigourously with Northwestern roads that connect with St. Louis and Kansas City. Its lines extend to Denver, and hence it is a competitor of the Burlington, Rock Island, and of the Union Pacific—Chicago and Northwestern line; its fine road between Kansas City and Chicago serves as an outlet for the Southwestern produce collected in Kansas and Missouri, and therefore competes with the seven other routes connecting Kansas City and Chicago; finally the company has some traffic between Chicago and St. Louis in conjunction with the Chicago, Peoria and St. Louis, which meets the Atchison main line to Chicago at Pekin, midway between Chicago and St. Louis. The *Illinois Central*, as is well known, belongs to the Southern group, and its main line connects Lake Michigan with the Gulf of Mexico. Nevertheless, the track from Chicago to Sioux City, etc., running North of the Northwestern and St. Paul main lines to Omaha (and indirectly connecting with that town) is of importance in Northwestern railroad business. The *Great Northern* chiefly competes with the Northern Pacific, and in South

Dakota and Western Minnesota with the St. Paul and Northwestern; traffic in the Red River Valley, etc., is especially cultivated, and the greater part of the company's mileage lies in the Northwest; in spite of this, however, the system is properly classed among the Pacific roads. The *Union Pacific* belongs to the same group as the Great Northern, but its line between Denver and Omaha and its numerous branches in Eastern Nebraska entitle it to some consideration as a factor in Northwestern traffic. With the *Northern Pacific*, dealt with on p. 535 and in Chap. XLVII the list of this class of roads is exhausted.

Of the local systems the *Burlington, Cedar Rapids and Northern* is by far the most notable. Its main line runs from Albert Lea, Minn., (connection for St. Paul by Minneapolis and St. Louis RR.) to Burlington, Ia., (connection for Peoria and the East), and has various important branches, one of which penetrates into Dakota. The system embraces 1,080 miles, of which 426 are owned, and, excepting the 'Soo' lines, is the only important Northwestern road transferring its produce for the East to other roads without touching Chicago. The system is closely connected with, though independent of, the Rock Island, in conjunction with which it forms part of a through 'line' between Chicago and St. Paul; the Cedar Rapids meets the Rock Island at Liberty, Ia., and the Minneapolis and St. Louis in Albert Lea, Minn. The company has a share capital of $5,500,000 common stock, earning no dividend, and $14,477,000 bonds (nearly all 5 p.c. gold). The *Investor's Supplement* of the New York *Chronicle* contains the following statement:—

INCOME ACCOUNT.

	1891 $	1890 $	1889 $	1888 $
Receipts—				
Gross earnings	3,886,340	3,303,982	2,986,543	848,076
Net earnings	1,272,696	816,147	808,609	771,447
Other receipts	24,410	105,256	96,308	61,282
Total income	1,297,106	921,403	904,917	832,729
Disbursements—				
Interest on debt	778,055	775,479	771,130	771 130
Construction, equipment, etc.	632,871	150,314	154,128	247,669
Total disbursements	1,410,926	925,793	925,258	1,018,799
Balance	def.113,820	def. 4,390	def. 20,341	def.186,070

The Minneapolis and St. Louis RR. owns and operates 354½ miles of road connecting Minneapolis with Morton, Minn., and Angus, Ia., forming a junction at both these points with the Rock Island, with which it has close relations. The bonded debt amounts to $9,213,000, in respect of which default was made in 1888, the appointed receiver being President Truesdale, who will presumably be discharged soon, as earnings are now in excess of fixed charges.

The *Iowa Central* runs from Albia, Ia., to Peoria, and has several branches in Central Iowa, the total length of the system being 509 miles, of which 503 are owned. The company is moderately capitalised, and has issued but $7,000,000 bonds, $5,543,000 5 p.c. preferred stock on which the first dividend of 1 p.c. has just been declared, and $8,200,000 common stock.

The *Chicago and Eastern Illinois* connects Dolton, a little South of Chicago, and La Crosse, Ind., with Terre Haute and Brazil, Ind. The system leases various lines and has a strongly developed local traffic with the Illinois coalfields; its total length is 481 miles, of which 210 are leased. The subjoined statement is copied from the *Supplement* of the *Chronicle* (by permission).

INCOME ACCOUNT.

	1890-91. $	1889-90. $	1888-89. $
Total gross earnings.	3,567,195	2,911,723	2,719,932
Operating expenses and taxes	1,946,499	1,731,369	1,721,547
Net earnings.	1,620,696	1,180,354	998,385
Net (including other income).	1,660,279	1,212,346	1,000,398
Interest paid	769,904	771,514	724,550
Rentals.	204,226	200,061	222,118
Dividend on pref. stock. . . .	(6 p.c.) 275,949	(3 p.c.) 133,956	(6 p.c.) 267,912
Total.	1,250,081	1,105,531	1,214,580
Balance.	sur. 410,198	sur. 106,815	def. $214,182

The Chicago and Eastern Illinois has close relations with the *Chicago and Western Indiana.* This is a company owning a large terminus and approaches in Chicago, and capitalised at $13·2 millions, $5,000,000 of which consist of shares of which the Atchison, Chicago and Eastern Illinois, Chicago and Erie, Chicago and Grand Trunk and Louisville, New Albany and Chicago railroads own $1,000,000 each. All these companies pay rentals, the aggregate of which leaves a vast surplus annually. The *Chicago and West Michigan RR.* owns an extensive system 573 miles long and connecting La Crosse, Ind., with numerous points in W. Michigan. Its capital consists of $6·7 million bonds and $7,521,000 stock, on which 3½ p.c. was earned in 1890 and 1891. Below is the income account for three years:—

INCOME ACCOUNT.

	1891.	1890.	1889,
Receipts—	$	$	$
Net earnings	525,753	563,795	356,367
Other receipts	——	6,750	6,646
Total income.	525,753	570,545	363,313
Disbursements—			
Interest on debt	272,832	245,816	237,847
Dividends	232,337	265,528	123,064
Rate of dividend	(3¼ p c.)	(4 p.c.)	(2 p c.)
Miscellaneous	2,319	——	——
Total disbursements . . .	507,488	511,344	360,851
Balance, surplus	18,265	59,201	2,462

The *Chicago, Peoria and St. Louis* owns several lines from Peoria and Pekin to East St. Louis and Centralia, and in connection with the Atchison (*q. v.*) forms a through line between Chicago and St. Louis. The system embraces 416 miles of railway, and the company has $3,500,000 stock and $5,071,000 bonds, including those of the Jacksonville, St. Louis and Louisville RR., now included in the system. The *Keokuk and Western*, formerly part of the Wabash system, runs from Van Wert, Ia., on the Burlington main line, to Keokuk, and is 148 miles long. The *Kansas City, Wyandotte and Northwestern* connects Beatrice, a railroad centre in Nebraska, with Kansas City. The *Omaha and St. Louis*, also part of the Wabash before its line was foreclosed, connects Council Bluffs with Pattonsburg, Mo.

In quite another part of the Northwest we find the *St. Paul and Duluth RR.*, 248 miles long, which chiefly forms a communication between the twin cities and Duluth. From what has been said of the commercial importance of these towns, a cursory reader would infer that the shortest route connecting them must occupy quite a superior position; but so far from this being the case, the St. Paul and Duluth is rather isolated, the two principal lines terminating in Duluth having their own connections with St. Paul, while the systems converging in St. Paul, with one or two exceptions, prefer the long haul to Chicago to patronising an independent line to Duluth. Moreover, the road only finds a fair amount of work during seven months out of every twelve, for when Lake navigation is closed there is no through freight to be sent to Duluth. If the company, therefore, is in a fairly prosperous condition, it is chiefly because of its moderate capitalisation, which consists of $4,660,207 common and $5,149,910 7 p. c. preferred non-cumulative stock and $3,972,500 bonds, nearly all of which bear 5 p. c. interest. In 1889 full interest was paid on the preferred stock. The *Investor's Supplement* of the *Chronicle* contains the following statement:—

	1891–92. $	1890–91. $	1889–90. $	1888–89. $
Gross earnings...............	1,934,510	1,621,939	1,410,527	1,406,865
Operating exp. and taxes....	1,291,586	1,071,192	1,017,458	1,052,394
Net earnings...........	642 924	550,747	393,069	354,471
Total net income... ..	678,987	575,893	415,566	402,178
Rentals paid.................	96,497	93,548	82,003	78,890
Interest on bonds............	150,000	150,000	150,000	118,702
Dividends....................	347,793	348,759	134,117	295.040
Miscellaneous........	69,684	31,900	26,912	20,218
Total payments........	663,684	624,197	393,032	513,851
Balance fr. RR. oper...	15,308	def. 48,304	sur.22,534	def.111,673
Rec. fr. stumpage and lands.	——	249,546	192,848	111,596
Balance................	——	sur.201,242	sur.215,382	def.77

An impression prevails in the Northwest that the St. P. and D. will soon be merged into some other system, and that it would prove an acquisition to several roads cannot be denied. It would, for instance, give the St. Paul an entrance into Duluth, and the Chicago Great Western, which seems bent upon increasing its system, could do equally well with it. The probability, however, seems that the road will ultimately become a second St. Paul connection of the Canadian Pacific; at any rate the St. P. and D. is extending its line towards Port Arthur and is on very good terms with the two lines to the 'Soo.'

PART VII.

THE SOUTHWESTERN GROUP.

CHAPTER XXXIX.

RAILWAYS OF THE SOUTHWESTERN STATES.

The Southwest embraces Missouri, Kansas, Arkansas, Texas and the Indian Territory. Some include in it Colorado and New Mexico, while others again add part of Louisiana, but the division of the country into groups being immaterial as far as our purposes are concerned, we follow that which is most convenient, and add Colorado and New Mexico to the Pacific Group while we consider the trans-Mississippi part of Louisiana as belonging to the Southern.

Broadly speaking, the Southwest is bordered in the North by the Missouri River, in the East by the Mississippi, in the South by the Gulf of Mexico and the Rio Grande del Norte, and in the West by Colorado and New Mexico. It covers, as the subjoined tables show, an area of 541,000 miles, or almost one-sixth of the United States; it contains over one-ninth of her population, represents one-eleventh of her wealth and has one-ninth of her railroads; the latter carry one-fourteenth of the entire American railroad freight movement, and employ one-seventh of the total capital invested in these enterprises. The subjoined tables give further details.

	Area sq. miles.	*Population*	*Assessed valuation (million $)*
Missouri	69,415	2,679,000	865·7
Kansas	82,080	1,427,000	782 1
Arkansas	53,850	1,128,000	172·4
Indian Territory	70,430	90,000	—
Texas	265,780	2,236,000	348 5
Totals	541,555	7,560,000	2,168·7

Table showing Relative Importance of the Southwestern States as compared with that of the entire Union (Census of 1890).

	Southwestern States.	United States.
Area (sq. miles)	541,555	3,602,000
Population	7,560,000	62,622,000
Assessed valuation	$2,168,700,000	$24,249,600,000
Miles of railroad	27,300	163,420
Capital of RR. companies	$14.50 mill.	$9.745 mill.
Earnings of RR	$107 „	$1,068 „
Passengers carried one mile	850 „	12,521 „
Tons freight „ „ „	5,800 „	79,193 „

The foregoing statistics clearly indicate that the Southwest is not nearly as fully developed as the other groups of States we have hitherto dealt with. Indeed, except in Kansas and Missouri, settlement only began a decade or so ago, the increase in the population amounting to fully thirty per cent. for the last dozen years. This marvellous influx of immigrants is chiefly a result of the climatic advantages which the region enjoys above the Northwest. On the whole the Southwest presents few contrasts with the States further North, and its soil consists chiefly of undulating plains which are exceedingly well irrigated by the tributaries of the Mississippi, and the rivers emptying into the Gulf; but it has this great point in its favour, that its climate is warmer and more equal than that of the Northwest. The longer summers and shorter winters offer considerable advantages to every one concerned in agriculture, since they result in an enormous saving in clothing, fuel and labour; in addition the crops suffer less damage from frost and the cattle require less care and can remain longer in the open air than is the case further North. These advantages are pronounced even in the Northernmost part of the Southwest, and are now so generally recognised that the tide of immigration has made a decided turn towards the country South of the Missouri River.

The State named after this long and stately stream is the most prominent of the group, and was settled as early as 1755 by the plucky Frenchmen who ruled the country until the sale of 'Louisiana' by Napoleon in 1803. Although, owing to the vast manufactories of St. Louis, industries nominally predominate in Missouri, the community outside of that thriving town chiefly subsists on agriculture, and in an average year 120,000 farms will produce the equivalent of $105,000,000 in the shape of 225,000,000 bushels of corn, 36,000,000 bushels of oats, 20,000,000 bushels of wheat and 6,000,000 bushels of potatoes. In addition 13,000,000 pounds of tobacco and 20,000 bales of cotton are raised. The mineral wealth of the State in as unbounded as its soil is fertile; the mines in and near the Osage Mountains yield some 500,000 tons of iron, 30,000 tons of lead and 12,500 tons of zinc, while soft coal fields extend over an area of some 26,000 square miles. In consequence the industries of the State have a great future before them, especially as the vast coalfields of Illinois, situated near St. Louis, provide that beautiful though smoky city with cheap fuel in abundance.

The city of St. Louis, which by this time claims to have a population of 450,000, lies a little below the confluence of the Missouri with the Mississippi, and is the commercial capital of the entire Southwest. As such it reflects both the agricultural and mineral wealth of its splendid *Hinterland*, being not only a leading market of agricultural produce but also one of America's most prominent seats of industry, especially noted on account of its packing houses, breweries and numerous other industrial establishments. Moreover its favourable situation on the Mississippi invests it with considerable importance as a centre of navigation. Even had there been no railways, St. Louis would have become the key to the Southwest, for the Mississippi and Missouri give access to St. Paul, Omaha, Pittsburg, Cairo, Memphis, New Orleans, and the best parts of the Indian Territory, not to speak of intermediate points situated along tributaries of the greatest river system in the world; as it is there are in spite of railroads 2,000 steamboat arrivals in the course of a year, not to mention thousands of barges which navigate the river as far as St. Paul and New Orleans. It is a peculiar fact, not commonly known, that St. Louis navigation competes with railways under the most favourable circumstances; it is stated that one tug will tow 10,000 tons of freight—the load of 13 trains—to New Orleans in seven days, *i.e.*, in quick time and at very low cost. But since railways have "frozen out" even the rivers, while, moreover, the river after all only runs in one direction which does not happen to be the direction of trade, St. Louis is far more important as a railroad centre than as a focus of navigation. The produce of the Southwest is wanted in the East; and, collected by the Southwestern railroad systems terminating in St. Louis, is shipped to the seaboard along the Pennsylvania, Big Four, Ohio and Mississippi, Toledo and St. Louis, Louisville and Nashville, and various smaller railroads. In addition there are seven different routes to Chicago, two direct and various indirect lines to Denver, numerous roads to New Orleans and the South, and quite a number of routes to Kansas City, St. Joseph, and other important towns along the Missouri; and these highways of trade created by man supersede those provided by nature. Its geographical advantages and its railroads caused St. Louis to become the entrepot of the Southwest, and concentrated within its boundaries an enormous trade and a vast traffic, which in turn created an all-absorbing business activity characterised by the same intensity as that of Chicago. Some idea of the town's importance may be gained from the fact that bank clearings in 1891 amounted to 1,140 million dollars, that the St. Louis Freight Car Association handles 250,000 freight cars (some 5,000 trains) a year, and that the city is connected with East St. Louis, Ill., by two railroad bridges, one of which was built at a cost of $10,000,000 and is two-storeyed.

Kansas City, built on the boundary line of Missouri and Kansas and on the Missouri River, is likewise a centre of trade, navigation and railways. In 1865 this town had a population of 3,500, and ten years earlier it was a steamboat stage chiefly patronised by border raiders; to-day its population numbers 185,000, and its trade represents some $300,000,000 per annum. There are large grain elevators and abattoirs, Messrs. Armour of Chicago having a branch here. Although the greater part of the town is situated in Missouri, Kansas City really is the commercial centre of Kansas, with every point of which it has direct rail connection. In addition the city has five direct and four indirect connections with Chicago, and several with Omaha and St. Paul. St. Joseph, near by with a population of 70,000, is likewise a rising town.

Kansas is an agricultural state par excellence, and although but in its teens it already produces $70,000,000 worth of crops and millions of cattle in the course of an average year. Corn is the principal produce, the average annual crop of that cereal having risen from 40,000,000 bushels in 1870 to 300,000,000 in 1891. In addition 40,000,000 bushels of wheat and 15,000,000 of oats are grown, 4,000,000 tons of hay, and beets yielding some two million pounds of sugar. The exports include 30,000,000 pounds of butter, 800,000 pounds of cheese, vast quantities of poultry and eggs and hundreds of train loads of fruit of all descriptions, while every year some 3,000,000 head of cattle are sent to the Kansas City Union Stock Yards, an establishment second only to the yards of Chicago. To these products of the farm extensive minerals are added, for the soil contains coal, salt, ores, etc. The principal towns are Kansas City (the portion situated in this State numbering a population of 50,000) Topeka (40,000 pop.) Wichita (25,000) Leavenworth (20,000) Atchison (15,000), and Fort Scott (12,000). Some of the cities in this State have descended from their status as "metropoles in embryo" and sunk to the low level of dull prairie towns. Wichita is the most noted of these, although at one time it was boomed to an extent which no average European can comprehend. Its population reached 20,000 in two years, and within the same short space of time there came a dozen railways; but there being no *raison d'être* for a large town the boom speedily collapsed and made room, first, for a terrible dulness, and next for a slow but steady growth. The entire Southwest has had many booms, the reaction of which seriously interfered with its growth; at present, however, progress is more healthy.

Arkansas is less developed than Missouri and Kansas, but at present it is growing fast, its population having doubled since 1880; this State is larger than England, almost exclusively agricultural, and consists of lowlands in the Southeast and highlands in the Northwest. Arkansas has 100,000 farms, and 83 per cent. of her population earn their livelihood by agriculture. The cotton crop of the lowlands averages 600,000 bales per annum, and in addition 45,000,000 bushels of corn are raised, and great quantities of tobacco, sweet potatoes and apples. Lumber is also an important produce, the annual output representing a value of $20,000,000, and cattle are exported in increasing quantities, while minerals abound, notably coal and iron. Such a variety of resources gives promise of a splendid future, and in the end cannot fail to elevate the State from the backward condition it remained in for many years. The leading towns are: Little Rock (pop. 23,000) Fort Smith (12,000), and Pine Bluff (10,000); there are a great number of young Spas, the State containing many mineral springs.

In the Indian Territory, otherwise 'No Man's Land,' the process of development has hardly commenced, but the region possesses resources which predestine it to become a great and prosperous commonwealth. At present there are many Indian tribes in the country and a few white settlers in Oklahoma, which was 'thrown open' by the Government a few years since, and is now renowned as the 'the Boomer's Paradise.' But the great scarcity of railways points to the scantiness of settlements and the economic insignificance.

Texas, on the other hand, is rapidly ascending the ladder of success, and on its way to attain that prominence to which its vast size entitles it. This State is larger than any European empire save Russia, and covers more than twice as much area as the eleven Eastern States of which details were given on p. 184 of this volume put together. Yet, whereas these Eastern States have a population of nearly 19,000,000, Texas has but 2,236,000, and its wealth is not greater than that of little Rhode Island, which is smaller than its most insignificant county. But Texas is growing, and means to grow further until it excels all other States. It contains vast and fertile plains, and fine forests, and minerals in profusion, and ranches, and cotton lands, and many valuable things besides. Above all, it can boast of some two millions of enterprising citizens ready "to boom Texas for all it is worth," and eager to increase its wealth by every available means. Accordingly development has been started on an imposing scale, and is no doubt destined to assume proportions compared with which the present are diminutive. There are already ten towns with a population above 10,000, the most notable being Dallas (38,000) San Antonio (38,000) Galveston (30,000) Houston (28,000) Fort Worth (28,000) Waco, Laredo, Denison and El Paso. Of these Fort Worth, Houston and El Paso seem to have great prospects, and Galveston will presumably benefit largely from the deepwater harbour now being constructed with the support of the Federal Government.

Texas is an important producer of cotton, of which it ships 1,200,000 bales yearly, valued at $50,000,000; in addition 50,000,000 bushels of corn and 8,000,000 bushels of wheat are raised, and the State is noted for its vast herds of cattle, thousands of steers being sent to Chicago every week. Wool is also one of the most important of its products, among which some 9,000,000 pounds of nuts and 12,000,000 pounds of cane sugar are minor items, and of course there is an abundance of lumber. I subjoin a copy of a typewritten circular some millions of which have been circulated by the Missouri, Kansas and Texas Railway; it gives some interesting details relating to the growth of Texas and at the same time illustrates the methods of advertising in vogue among American Railroads.

MISSOURI, KANSAS AND TEXAS RAILWAY.

GEO. A. EDDY & H. C. CROSS, Receivers.

Office of the General Passenger and Ticket Agent.

GASTON MESLIER,
Gen'l Pass. & Ticket Agent.

W. G. GRAHAM,
Ass't Gen'l Pass. & Ticket Agt.

SEDALIA, MO., March 2d, 1891.

DEAR SIR:

Are you aware of the rapid growth and development of the State of Texas? Do you know that the development in the past few years has been so rapid as to be almost wonderful? Cities and towns have sprung up and are thriving to-day where one, two or three years ago there was nothing to be seen but bare prairie or unhewn forests. If you have not received a copy of our Folder giving a description of the cities of Texas, say so, and we will send you a copy.

Considering the opportunities for success as offered to the investor or home-seeker through the vast resources of Texas, it is not surprising that the new census of 1890 shows an increase of population in Texas of 6[illegible]0,471, or an increase of 40·24 per cent. over that of 1880; nor is it surprising that the reports from the Comptroller's office at Austin, Tex., show an increase in taxable values by counties of $463,259,270 over that of 1880, and an increase of $92,915,196 over that of 1888. The total taxable value of the State of Texas is $775,000,000, which is something like $282,334,480 more than any other State in the South.

A prominent feature in the improvement of the State of Texas is her railroads. There are thirty-seven Railroad Companies in the State, operating a total main track of 8,387·41 miles, and prominent among these roads is the Missouri, Kansas & Texas R'y., which has made many and rapid strides towards perfection in all branches of its passenger service, and now offers its patrons facilities for quick and comfortable transportation between Chicago, Hannibal, St. Louis and Kansas City and Texas points, which is beyond criticism; running the celebrated Pullman Buffet Sleeping Cars through without change, on fast trains, making close connections with all diverging lines for points in Mexico and California.

The M., K. & T. R'y is the favorite route to Texas from all points, North, East or West.

Yours truly,

GASTON MESLIER,
Gen'l Pass. & Tkt. Agt.

The Railroads of the Southwest have the same natural characteristics as the country that maintains them, and their principal features are sparseness, rapidity of development, and youth. The Northernmost part of the region, being settled longest, is naturally better provided with transportation facilities than the new country, and Kansas and Missouri are served by rival systems of great power which create that vigourous competition without which no development is possible in the West. In the South, roads are less numerous, and but for the through routes many parts would be altogether devoid of railways because in most counties there is not sufficient local business to attract any. Indeed, Kansas, Missouri and Eastern Texas are the only regions which in a strict sense have local lines.

As yet the traffic of the entire Southwest is carried to St. Louis and Kansas City, these two towns being the entrepôts which collect local produce and distribute the articles for which it is exchanged. There are in the Southwest practically but two great systems, the Atchison and the Gould roads, and these carry the produce of the entire region to both towns, the Missouri Pacific as much as possible to St. Louis, the Atchison to Kansas City, where it is connected with Chicago by its own line, the Chicago, Santa Fe and California RR. The Atchison has some six thousand miles of road in the Southwest, the major part of which is situated in Kansas and is tributary to Kansas City; other portions of the system, notably those in Southern Kansas and Texas, connect both with that town and—since the St. Louis and San Francisco RR. has been added to the system—with St. Louis. Of course the Atchison is also a Pacific road in the full sense of the word, but the bulk of its traffic being derived from its Kansas lines it cannot be classified otherwise than among Southwestern roads.

The importance of the Santa Fé system is over-reached by that of Gould's. This noted financier, indeed, controls well-nigh one-half of all lines in the Southwest. His Missouri

Pacific is the most formidable, one may say the only, competitor of the Atchison lines in Kansas, and the Iron Mountain RR., which it leases, holds the same relation to the S. L. and S. F. owned by the Atchison. The Missouri Pacific system embraces 5,300 miles, but to it must be added three more roads controlled by Gould, namely the Texas and Pacific (1,499 miles) the St. Louis Southwestern (1,222 miles) and the International and Great Northern (825 miles) which give Mr. Gould some 8,800 miles of lines, most advantageously situated and reaching from New Orleans, Galveston, Laredo, El Paso, Denver, Omaha and Kansas City to St. Louis, Cairo and Memphis. Next to the Atchison and Gould systems comes the Missouri, Kansas and Texas, connecting numerous points in Texas and the Territory with Kansas City, St. Louis and Hannibal. These three systems carry most of their freight to Kansas City and St. Louis, where the bulk of it, destined for the East, is transferred to the Northwestern, Central, and Trunk lines dealt with elsewhere. Apart from the various roads belonging to the Atchison, Gould and M. K. T. systems there are lines which form parts of systems classed among other groups, the most notable of these being the Union Pacific branches in Northern Kansas and the Rock Island in Kansas and the Territory.

Map 4 shows that the railways have made the greater part of the Southwest tributary to St. Louis and Kansas City. These two towns are the natural outlet of Kansas and Missouri, but the same cannot be said with regard to other parts of the Southwest, notably Arkansas and Texas. The peculiar evolution of the three principal systems has hitherto successfully dictated to the trade of these two States a route which is by no means the best that could be adopted. Their produce is not wanted in St. Louis and Chicago, but in the East; and the shortest way to the East does not touch these two towns, but leads via Memphis, Cairo, etc. In course of time this fact cannot fail to assert itself, for although trade is not easily diverted from old routes it always displays a tendency to seek the shortest possible channel. The commerce of Texas and Arkansas forms no exception to the rule, and is looking out for a direct outlet to the East which avails itself of the cheapest and shortest route. There are signs that the existing systems will in a measure accept this hard fact and make the best of it by constructing new lines in the appropriate direction, and this is notably the case with the Gould lines, which are especially encouraged by the circumstance that Mr. Gould through his Richmond Terminal system controls one of the short routes between Texas and the East. The Atchison and Missouri, Kansas and Texas, however, have no such connection, and for that reason make strenuous efforts to prevent changes in the direction of trade, or if that is impossible to delay them. In connection with this matter we call attention to Mr. Gould's alleged intention of diverting the traffic of his Missouri Pacific system to the South, to which we [illegible] elsewhere.

The Atchison, Gould, and Missouri, Kansas and Texas systems are dealt with in subsequent chapters, but in addition there are a few other roads some of which are of strictly local importance while others have some share of through traffic. To the latter class belong the *Kansas City, Fort Scott and Memphis Railroad* which, through the Kansas City, Memphis and Birmingham RR. connects with the East via the South. The Kansas City, Fort Scott and Memphis owns 671 miles and leases 81, and its lines run from Kansas City to Memphis. The company gains access to and terminal accommodation in Kansas City by using the Kansas City Belt RR.[1] and connects with Birmingham by the Kansas City, Memphis and Birmingham RR. just mentioned, of which it holds half the stock. The corporation dates from 1888, and is a consolidation of the Kansas City, Fort Scott and Gulf, and Kansas

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[1] The K. C., F. S. & M. owns 300 shares of this railroad.

City, Springfield and Memphis railroads. The capital stock amounts to $2,750,000 8 p.c. preferred, which since 1882 has received its full dividend, $9,997,000 common, and bonds to the amount of $21·8 millions. Earnings are as below. [1]

	1890–91. $	1889–90. $	1888–89. $
Gross earnings	4.703,142	4,937,431	4,545,567
Net earnings	1,313,924	1,550,786	1,518,057
Charges-Int., traffic guarantees etc.	1,068,846	1,042.549	994,537
Balance, after adding other income	256 881	569,'61	606,578
Dividends paid	208,972	566,414	516,924
Balance	sur. 47,909	def. 2,747	sur. 89,654

The *Little Rock and Memphis* is a railroad as it were created by the demand for short and direct routes just referred to. The road is 133 miles long and connects the two towns after which it is named. It has a funded debt of $3,222,400 and a share capital of $3,250,000. Earnings for year ending Dec. 1891: Gross $709,082, net $186,344, surplus above charges $26,844.

The *Union Pacific, Denver and Gulf* connects Denver with Fort Worth in Texas; but running opposite to the direction of trade, it plays no important *role* as a through route. We refer to it in the chapter dealing with the Union Pacific system, of which it forms a part. Another railroad connecting Missouri points with the South is now projected and will be built by the *Kansas City, Arkansas and New Orleans Railroad Co.*, which is issuing bonds at the rate of $20,000 a mile, and has an authorised capital stock of $6,000,000. of which $1,000,000 is issued.

Of local lines there is, in the first place, the *Houston and Texas Central*, but as this road constitutes a part of the Southern Pacific, we can defer speaking of it until this important transcontinental system comes under discussion. The *San Antonio and Aransas Pass* is at once the most promising and from a local point of view the most important of the independent lines belonging to this class. The road is at present restricted to constituting a connection between local points in Texas such as Houston, Waco, Kerville, San Antonio, and Aransas Pass, the latter being a Gulf port for which some predict a great future. This system has a total length of 682 miles, but considerable extensions are planned—one in the direction of Laredo on the Rio Grande River, where it will connect with the Mexican National, and another from Houston to New Orleans, with a branch to Shreveport. In New Orleans it will meet the systems leading from there to the East, and in Shreveport will form a junction with Gould's St. Louis Southwestern. A glance at map 4 will show that these extensions will convert the system into part of a most important direct through route between Mexico and the East, and that it will be in a position to compete under very favourable conditions with the Southern Pacific and Atchison systems, which have hitherto monopolised traffic with the Egypt of the New World. The company defaulted some time ago and foreclosure sale was ordered to take place in November of the current year, but recently the receivers have been discharged, the reorganisation committee agreeing to deposit some $750,000 as a guarantee of fulfilment of their promise to pay outstanding claims. The plan of reorganisation provides for the issue of new securities, but fresh difficulties appear to have arisen owing to the receiver's management having proved a rather expensive one.

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[1] *(Investors' Supplement, N. Y. Chronicle)*

The *Galveston, Houston and Henderson RR.* connects Houston with Henderson, is 50 miles long, and controlled by the International Great Northern, which operates the road under a lease.

The *Fort Worth and Rio Grande* is a railroad running from Fort Worth in a Southern direction to Brownwood; its present length is 145 miles, but it will be extended to the iron mines in Llano County. The road has only just been completed, so that no detailed statements can be given; but it may be mentioned that earnings for the first six months of the current year were $174,000 against $104,000 during the same period of 1891.

The *Houston East and West RR.* is a narrow gauge line from Houston to Logansport, a distance of 192 miles. The stock of the company that owns it amounts to $1,920,000 and there is a first mortgage of $1,344,000 and a second of $750,000.

The *Vicksburg, Shreveport and Pacific*, running from Delta, La., to Shreveport, will be dealt with under Cincinnati, New Orleans and Texas Pacific. The *Kansas City, Watkins and Gulf* has just been completed from Lake Charles, La., to Alexandria, Tex., and will be extended in a Northern direction to meet the Iron Mountain.

In connection with railroads in Texas generally it is desirable to refer to the exceptionally hostile laws which the Legislature of that State has seen fit to enact. On the whole Southwestern roads are in that state which Northwestern lines were in some 20 or 30 years ago, and therefore passing through experiences very similar to those which have been witnessed North of the Missouri. The frequent embarrassments, reorganisations and questionable practices formerly characteristic of Northwestern roads—most of which are now attaining maturity—are to-day features of the Southwestern group, and it seems even that the hostile, injurious and injudicious legislation which has caused so much difficulty in Iowa, Wisconsin, etc., will be repeated throughout the Southwest. In Texas the most injurious Acts have been passed in the erroneous belief that they would prove beneficial to the community, and that they were in accord with true patriotism. For instance, the State is noted for an Alien Land Act which, it is true, may keep "Texas for the Texans," but must also greatly interfere with the introduction of foreign capital, without which the development of the State will be very considerably retarded. Another law relating to the railroads was passed in 1891, and the following instructive comments are derived from the report of the Texas and Pacific RR. and have been issued over Mr. Gould's signature:—

"The crusade directed against all corporate interests in "Texas, particularly railways, during the past year, culminated in the passage of an Act by the Legislature on "April 3, 1891, creating a Railway Commission, clothed "with plenary powers, from whose arbitrary decisions there "was no adequate relief provided.

"This commission, the members of which were appointed "by the Executive of the State, organised on June 10, "and at once proceeded to the consideration of existing "freight rates, with the avowed purpose of making a radical "reduction, and in a brief period thereafter commenced the "promulgation of tariffs based on mileage, fixing rates on "all the principal commodities transported on your line, "reducing them to an extent wholly unwarranted by the "existing circumstances, and in the face of statements "clearly showing that the rates previously prevailing were "only fairly remunerative."

The attitude of the Railroad Commission has been challenged by the railroad interest, and it is gratifying to note that the Courts recognised the injustice, to say nothing of the folly, of the new legislation, and have not upheld it in a recent decision.

CHAPTER XL.

THE ATCHISON SYSTEM.

The most extensive of all American railroad systems originated in 1859, when the Atchison and Topeka RR. Company applied for and obtained a charter for a railway connecting two obscure townships in Kansas, situated at a distance of some forty miles from each other. Owing to financial difficulties, and also as a result of the economic disturbances caused by the outbreak of the civil war, its promotors were unable to commence construction, and in 1863 they transferred their charter to other parties who sought and acquired powers to extend the line beyond Topeka towards the Southwest of Kansas, and in the direction of Santa Fé, the capital of New Mexico, the name of which was added to those of the two Kansas townships, so that the company was henceforth known as the Atchison, Topeka and Santa Fé RR. Co. Congress endowed the new corporation with a valuable land grant[1] amounting to 6,400 acres for every mile of road constructed, on condition, however, that the entire railway should be completed within the ten years expiring March, 1873. This clause nearly deprived the company of its land grant, for the depression following in the wake of the war rendered the commencement of construction an impossibility, and six years elapsed before a start was made. The section between Topeka and Emporia was not opened for traffic before August, 1870, and that between Topeka and Atchison, which was taken in hand next, as late as May 13th, 1872.

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[1] The company received altogether 2,934,660 acres of land *in Kansas.*

On that day only ten months remained before the expiration of the period stipulated under the Land Grant Act, and the company had built barely one-fourth of its line; yet so energetically did its managers push work forward that the requisite 340 miles were completed within seven months, the Eastern boundary of Colorado being reached on December 28th, 1872. Even in America, where roads are built with lightning rapidity, this feat has no parallel.

As the result of this rapid construction the cost of the road considerably exceeded the estimates, and the company contracted a floating debt which soon threatened to involve it in embarrassments. Shortly after the opening of the line the crisis of 1873 broke out, and the creditors asked for payment; and serious consequences might have ensued had not the company succeeded in contracting for a new loan with the proceeds from which the floating debt was paid. At the same time the bondholders consented to a postponement of the payment of the interest for 1873 and 1874; the cash which became available thereby was spent on improvements, and coupons were funded, bondholders receiving twice their face value in consolidated mortgage bonds.

During the financial crisis no attempts at extension were made, but in the same degree as confidence revived this company, like so many others, resumed construction; and when the building craze of the early eighties reached its climax the Atchison was extending its lines faster than any of its fellows. In 1875 its system was but 712 miles in length; by the end of 1884, 2,375 miles were in operation, and still the company kept on extending its lines, especially those in Kansas, until in 1887 it owned a network embracing over three thousand miles of railway, and operated in addition some 3,500 miles of proprietary lines, so that the system within ten years had increased its length from 786 miles to 6,069, and had grown from a local line into a system directly interconnecting some of the most remote parts of the Union. Yet the ambition of its managers was by no means satisfied; there were lines connecting with the Golden Gate and the Gulf, with the Rocky Mountains and the Rio Grande; what was now desired was direct communication with Chicago, and accordingly the Chicago, Santa Fé and California was started, and completed in 1888. In that year the system of owned lines reached a length of 7,113 miles[1]; and to this huge mileage were added (1890) the St. Louis and San Francisco and Colorado Midland systems, which swelled the total to 9,327·51 miles, more than is operated by any other railroad company in the world.

The table on p. 561 taken from the report for the year ending June 30th, 1891, clearly shows the gradual growth of the system and its component parts. The St. Louis and San Francisco system, 1,863 miles, and the Colorado Midland Railway, 350 miles, both of which are leased, are omitted.

About one-half of these lines are situated in the Eastern and Southern part of Kansas, where local traffic of the first magnitude has been gradually developed; but, as a glance at map 4 will show, the Atchison is no longer merely a local system. Its lines extend to the Gulf of Mexico and Lake Michigan, to the Gulf of California and the Pacific Coast, into the Rockies and into the Sonora. One road goes to Barstow, Cal., to meet the Southern California system; another traverses the Indian Territory and Texas; a third connects for San Francisco by the Southern Pacific, which it meets at Mojave; a fourth goes to El Paso, where it joins the Mexican Central, a road which owes its origin to the same bold and enterprising Bostonians who conceived the Atchison, with which it has close traffic agreements. Other lines go to Denver, Panhandle and St. Louis, but nearly all ultimately lead to the fine road which runs from Kansas City to Chicago. Chicago is the principal terminus of the system; it is Chicago to which the Atchison has made itself tributary, to which it gives direct communication with

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[1] Lines owned jointly are as usual counted half.

Statement showing Mileage of Roads Operated at Close of Fiscal Years from 1870 to 1890.

Railroads.	*Mar 31 1870.*	*Mar. 31 1871.*	*Mar 31 1872.*	*Mar 31 1873.*	*Dec. 31 1873.*	*Dec. 31 1874.*	*Dec. 31 1875*	*Dec. 31 1876.*	*Dec. 31 1877.*	*Dec. 31 1878.*	*Dec. 31 1879.*
Atchison, Topeka & Santa Fe RR. System—Proper....	Miles. 27	Miles. 82	Miles. 135	Miles. 496	Miles. 508	Miles. 508	Miles. 711	Miles. 711	Miles. 786	Miles. 868	Miles. 1,167

Railroad.	*Dec. 31 1880*	*Dec 31 1881.*	*Dec. 31 1882.*	*Dec. 31 1883.*	*Dec. 31 1884.*	*Dec. 31 1885.*	*Dec. 31 1886.*	*Dec. 31 1887.*	*Dec. 31 1888.*	*Dec. 31 1889.*	*Jun 30 1890.*
	Miles.	Miles.	Miles	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Atchison, Topeka & Santa Fe RR. System—Proper..	1,502	1,789	1,820	1,820	1,337	1,867	1,887	2,070			
Southern Kansas Ry..................................	384	384	398	398.58	506	528	550	881			
Consolidated System (May 1, 1888).	—	—	—	—	—	—	—	—	3,024	3,026	
Chicago, Kansas & Western RR..........................	—	—	—	—	—	—	—	779	943	943	
Chicago, Santa Fe & California Ry..........................	—	—	—	—	—	—	—	—	516	516	
St. Joseph, St. Louis & Santa Fe Ry..........................	—	—	—	—	—	—	—	—	97	97	
Consolidated System (Jan. 1, 1890).	—	—	87	87	87	87	87	—	—	—	4,582
New Mexico & Arizona RR..........................	—	—	262	262.41	262	262	262	87	87	87	87
Sonora Ry..................................	—	—	—	—	—	—	278	262	262	262	262
California Southern Ry..........................	—	—	—	—	—	—	—	210	210		
California Central Ry*..........................	—	—	—	—	—	—	—	120	269		
Southern California Ry. (Nov. 1, 1889)..........................	—	—	—	—	—	—	729	—	—	476	476
Gulf, Colorado & Santa Fe Ry..........................	—	—	—	—	—	—	—	1,012	1,058	1,058	1,058
St. Louis, Kansas City & Colorado RR..........................	—	--	—	—	—	—	—	61	61	61	61
Total owned and controlled roads..............	1,886	2,174	2 569	2,569	2,694	2,746	3,794	5,486	6,530	6,529	6,527
Roads owned jointly—one-half ;—											
Manhattan, Alma & Burlingame Ry..........................	28	28	28	28	28	28	28	28	28	28	28
Leavenworth, Topeka & Southwestern Ry..........................	—	—	23	23	23	23	28	28	28	28	28
Wichita & Western RR..........................	—	—	—	—	22	22	22	22	22		
Kingman, Pratt & Western RR..........................	—	—	—	—	—	—	—	39	39		
Wichita & Western Ry. (Jan. 1, 1889)..........................	—	-	—	—	—	—	—	—	—	62	62
Atlantic & Pacific RR.—West Division..........................	—	—	—	—	407	407	407	407	407	407	407
Atlantic & Pacific RR.—Central Division..........................	—	—	—	—	51	51.00	51	56	56	56	56
Total jointly owned roads-one-half..............	28	28	51	51	532	532	537	582	582	582	582
Total system—general..............	1,915	2 202	2,620	2,620	3,226	3,279	4,332	6,069	7,113	7,111	7,110

* Includes Redondo Beach Ry., 10·81 miles.

the farms of Kansas, the fruit belt of California, the cattle ranches of Texas and the Sonora, the mining camps of New Mexico and Colorado, the cotton fields of Texas and Arkansas; it is Chicago to which it carries the produce of twelve of the largest and most promising States of the Union, States which in the long run may excel even the great Northwest, over which they have conspicuous climatic advantages.

During the first years after its inauguration the Atchison thrived and flourished. Just then the entire country reached the zenith of that remarkable era of prosperity which began a few years after the war and culminated in a boom such as even the United States had never seen before, and in all probability will never see again. The Southwestern States, and notably Kansas, a State to which the Atchison had thus far confined itself, were still more booming—if that was possible — than any other part; the Atchison, moreover, had the field all to itself, for in those days the Missouri Pacific had not yet begun to compete for local traffic. A result of this unique combination of favourable circumstances was that the young line was soon looked upon as one of the most promising properties in the United States. In 1880 it was able to pay a dividend of 8¼ per cent., and a year later it declared one of 6 p.c. in cash, and in addition distributed a dividend of 50 p.c. in stock, which made such a favourable impression upon Wall Street that the quotation reached 154¼ per cent., the highest ever recorded. Although the company never returned to the brilliant position it occupied nine years after the completion of its original main line, its affairs remained in a satisfactory condition for some time and dividends continued to be paid, although by degrees they grew smaller; in 1887 they ceased altogether, and after a while the shareholders awoke to the consciousness that both the condition and the prospects of their property were far from reassuring.

As showing how things altered within the brief space of six years the following compilation is very instructive:—

	1883.	*1889.*
Mileage	1,820	3,026
Funded and floating debt	$25,887,000	$61,498,000
Net earnings	$7,369,130	$4,886,000
Net earnings per mile	$4,030	$1,610
Working expenditure p.c.	47·8 p.c.	69·5 p.c.
Interest and coupons	$1,553,000	$3,279,000
Dividends paid	$3,414,000	$375,000
Passenger rate	2.92c.	2.42c.
Freight rate	1.99c.	1.28c.

This comparison shows how great a change for the worse occurred between 1883 and 1889. The falling off of net earnings to the extent of more than 55 per cent., and that in the face of an increase of mileage amounting to 66 per cent., is undoubtedly one of the most remarkable instances of the decline of business to be found in the annals of American railroads; the growth of fixed charges, the increase of working expenditure from the phenomenally low figure of 47·8 per cent. to the high level of 69·5, and the decline in net earnings per mile are equally startling. Within six years a most prosperous property had become an utter wreck, burdened with debt, and not able to pay a dividend.

To a considerable extent, the altered conditions of business were responsible for these distressing changes. A vigourous competition had sprung up during those six years; the Missouri Pacific had been extending its lines in Kansas, and, moreover, years of dulness, depression and crop failures succeeded the prosperity of the early eighties; and consequently the numerous lines constructed during the craze which reached its height in 1882 failed to obtain the business in anticipation whereof they were built. In addition there was a destructive rate war, resulting in the lowest tariffs that had ever existed up to that time, rates being almost 40 per cent. below the average of 1883, and thus the decline of the company's prosperity was in no small measure due to matters beyond the control of those to whom the management of the property had been entrusted. But however much allowance should be made for this it cannot possibly be asserted that the change for the worse was due to extraneous conditions alone; those in power had by a wrong policy contributed as much to the decay of the railway as commercial depression and competition, and perhaps even more.

The principal cause of the breakdown of the company must be sought in indiscriminate extension. Up to the time when it reached the zenith of its prosperity the Atchison had been satisfied with carrying the produce of Kansas to Kansas City, where it connected with several roads leading to Chicago, and these gave large amounts of freight in exchange for the traffic they received. But, not unlike some individuals who become well-to-do, then embark in large enterprises to increase their wealth, and finally lose all they have, the Atchison began to yearn after still greater prosperity, and from that moment its fortunes waned. The construction of local lines was conducted with too much haste; but this error was not so grave as that committed when the company resolved to build the Chicago, Santa Fé and California RR. in order to give the system direct connection with the capital of the West. By going to Chicago the Atchison made enemies of all its former friends, who, as happens so often in the case of extensions, became its opponents the day the new line was opened. Instead of sending large volumes of freight over the Atchison's Kansas lines, as they did before, the roads between Kansas City and Chicago at once withdrew their support and forwarded their goods by the Atchison's rivals who did not compete with them in Chicago business, notably over the Missouri Pacific, which as is well known parallels many of the Atchison's lines in Kansas.

The effects of this animosity were of course most acutely felt by the Atchison, although the hostility has by this time disappeared to a very great extent. As long as competition is bran new, opposition is the order of the day; but after a while it becomes an accepted fact, the new rival establishes himself and his business, the hatchet is buried, the warpath left, and the old affair forgotten.

The policy of extension, apart from increasing the company's debt—a matter to which we return below—therefore had the effect of curtailing its earning power for the time being. It would be interesting to know whether the people who then led the road's destinies foresaw these inevitable consequences of the completion of the Chicago extension. If they did they must have considered this loss trifling in comparison with the benefits bound to result from an enterprise which completed a grandly conceived scheme—the scheme to render the Atchison not only the biggest railroad system in the United States, to add to the local network of Kansas a number of long and important lines leading to various and distant parts of the country, but also to create a railroad which, having its own local sphere and its own through lines, would be absolutely independent of the goodwill of any other road. Although nothing seems to be known of any such definite plan, a glance at a map of the system seems to justify the assumption that it existed, for through all these extensions, completed in the course of but ten years, we clearly perceive one great purpose — the intention to make the Atchison the great connecting link between Mexico, Southern California, the Rockies and the entire Southwest on the one hand, and Kansas City, St. Louis, and Chicago on the other. It is not necessary to consider the rumours concerning an extension to San Francisco, with which the Atchison has been repeatedly credited, nor the alleged intention of buying the D. and R. G., which may, for aught we know, exist nowhere except in the brain of some reporter, though it would give the Atchison what would practically be a monopoly of the Rocky Mountain business;[1] even without these possible extensions we clearly see that the road from a purely local concern has grown into one great and homogeneous inter-State system, and this cannot have been done without design—a design characterised by a daring and boldness sure to command our respect as long as we look upon it merely as a strategic operation. In justice to the Atchison and the much-abused ex-President Strong we must not omit to mention this bright feature of the most remarkable railroad extension of all times. Whether from the shareholder's point of view it was worth while to sacrifice prosperity to greatness, whether the game was worth the candle, and whether the future will compensate for the sacrifices of the past and the present, are points which we shall have to consider presently.

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[1] In 1878 the Atchison leased the D. & R. G.; but this compact was terminated by the latter in 1880.

The mistaken policy, the increase of competition and the unsatisfactory condition of trade had, as the foregoing table and the data given on p. 563 show, a most disastrous effect upon the affairs of the company. From 1883 until 1886 the mileage directly operated had increased from 1,820 to 3,026, and the annual interest charges from $1,553,000 to 3,279,000. But gross earnings fell from $7,755 per mile to $3,911, and with reduced rates and increased operating expenditure *pro rata* the net earnings per mile declined from $4,048 to $1,034, so that the net revenue of the system, instead of rising with the largely extended mileage, went down from $7,369,120 in 1883 to $4,886,000 in 1886; as a result there remained only a very small surplus over first charges. In addition to a heavy capitalisation there was a large floating debt, amounting to $3,554,340; and, moreover, the property stood sorely in need of improvements of all kinds, to defray the cost of which there were no funds. The financial condition therefore was critical, the more because Mr. Gould was making endeavours to force the property into bankruptcy in order to gain control of it in the interest of his Missouri Pacific; and soon it became evident that the Atchison would entirely collapse unless a radical remedy were applied.

Such a remedy was devised in the shape of a simple yet effective reorganisation which was given effect to in the autumn of 1889. It provided for the consolidation of the Atchison proper with the axiliary lines, and the manifold descriptions of old bonds were exchanged for new 4 p.c. general mortgage and 5 p.c. income bonds, in such manner that holders received an amount of each which would yield an exact equivalent of their old interest if the incomes earned their full 5 p.c. Of both descriptions such an amount was issued as would in addition provide for payment of the floating debt as well as leave funds required for betterments, etc.

Before the reorganisation the capital and annual charges of the company were as below:

	Principal. $	*Annual interest.* $
Bonds of Atchison and subsidiary lines	160,786,000	9,203,620
Equipment lease warrants	1,445,660	86,740
Contingent issue of Atchison bonds in Chicago	775,000	38,750
Income bonds	10,136,000	—
Total funded debt	173,142,660	—
Total annual interest	....	9,329,110
Less interest on bonds owned	....	253,340
Annual interest	....	9,075,770
Sinking funds	....	359,000
Rentals and taxes	....	1,723,000
Total annual charges	....	11,157,770

To reduce these charges the following proposal was made and accepted.

	$	$	$
New *4 per cent. general mortgage bonds* to be issued as follows:			
To take up existing mortgage and lien issues..............	....	131,766,550.00	
For cash subscription.........	....	12,500,000 00	
For reserve....................	....	5,733,450.00	150,000,000.00
Reserve (as above)...........	5,733,450.00		
Add: Returning to treasury of company, after floating debt (to be provided for from cash subn.) shall have been paid and securities thereon released and exchanged.....	3,531,800.00		
Total in treasury.........	9,265,250.00		
New *5 per cent. income bonds* to be issued as follows:			
To apply in taking up existing mortgage and lien issues....	....	73,602,160.00	
For cash subscription........	....	1,250,000.00	
For issues of income bonds outstanding	....	4,692,914.30	
Treasury balance..............	....	454,925.70	80,000,000.00
Treasury balance as above .	454,925 70		
Add: Returning to treasury of company, after floating debt (to be provided for from cash subscriptions) shall have been paid and securities thereon released and exchanged..................	1,301,760.00		
Total in treasury.........	1,756,685.70		

This plan reduced first charges to but $7,352,390, specified as follows:

Interest on net amount 4 p.c. bonds issued ($140,734,750) . .	$5,629,390
Rentals and taxes, as above.	1,723,000
	$7,352·000

NOTE.—Owing to the conversion of the incomes into 4 p c. second mortgage bonds these charges have of course increased, for which reason another table is given on p. 574.

The above statement shows that $12,500,000 4 p.c. mortgage bonds and $1,250,000 income bonds were offered for cash subscription. They were sold at 80, and subscribers to the mortgage bonds received 10 p.c. in income bonds as a bonus. The company therefore received for this issue $10,000,000 cash, $5,000,000 of which were to be devoted to betterments and the purchase of additional equipment, while $3,554,340 served to redeem the floating debt and $1,445,660 to retire outstanding equipment warrants. As will be seen from the statement of funded debt given on p. 574 but $130,324,000 of the general mortgage has been issued, the remainder being reserved for treatment of the guarantee fund notes and other securities in course of conversion.

In most respects this reorganisation was a complete success. Some stockholders objected to the issue of new bonds to an amount which removed the possibility of dividends to an appreciable extent; but as this was counterbalanced by the circumstance that no assessments were levied on the stock the method adopted also had its advantages. It was necessary to provide new capital, and this could only be done by either increasing the funded debt or by asking the shareholders for cash assessments From a theoretical point of view it would have been better if the management had seen its way to keep the funded debt at the lowest possible point and let the shareholders provide the requisite funds: but it is questionable whether the shareholders really would have preferred this method above the one now adopted.

The reorganisation, however, failed in one particular: it made no provision for the immediate and future requirements for improvements always existing in the case of systems which have not yet attained maturity. This want became more keenly felt as time went on; the company was compelled to spend vast sums on betterments out of earnings, and this policy resulted in the abnormal proportion of operating expenditure which attracted such general attention. It was therefore necessary to amend the reorganisation, and consequently proposals were made in June, 1892, to convert the income bonds into second mortgage bonds bearing a fixed interest. The broad fentures of this conversion were that holders of income bonds were asked to exchange their securities for second mortgage bonds bearing 2½ p.c. interest from July, 1892, until October 1, 1893; 3 p.c. until Oct. 1st, 1894; 3½ p.c. for the year expiring October 1895, and 4 p.c. thereafter, and that $ 20,000,000 additional 4 p.c. bonds should be issued to pay for betterments.[1] The disadvantage arising out of this conversion is that the holders of Incomes see their maximum interest reduced to the extent of one per cent.; the advantage consists in the fact that the bonds will now bear a fixed interest which cannot be interfered with, no matter what betterments are required. whereas otherwise the necessity of constant improvements on a vast scale might have kept down the annual distribution among income bondholders for an indefinite period; the proposal was therefore reasonable. Further betterments are to be paid for out of the proceeds from an issue of additional second mortgage bonds (termed 'B' bonds, as distinct from the 'A' bonds which replace the old incomes) which will at once bear 4 p.c. interest. Of these bonds the company can issue $5,000,000 annually for four years and reserves the right to issue $2,500,000 per annum thereafter, all proceeds to be applied, however, to betterments on existing lines and rolling stock. Both the "A"

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[1] The subjoined statement and the comments made theron by *The Times* of May 23rd, 1892, are of interest.

"We have received the subjoined communication from a Boston (United States) correspondent to-day regarding the proposed scheme of reorganization of the Atchison, Topeka and Santa Fé Railroad. It will be seen that the Income bondholders are to have their interest seriously reduced, and that no sacrifice whatever is to be made by the common stockholders. This was to be expected, as the bulk of the Income bonds are held here, and the holders are supposed to be quite defenceless against such high-handed treatment. If money is wanted for the legitimate development of the line the proper course to adopt is to pay the Income bonds a full dividend not in cash but in common stock for a year or and "B" bonds have a second mortgage upon the entire property, subject, however, to the rights of the guarantee fund notes.

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two, and use the sum due to them for the improvements contemplated. It is not just that after the cruel sacrifices forced on the holders of the old mortgage bonds in 1889 they should now be asked to accept a further reduction of the miserable revenue promised them, and all for the future benefit of the common shareholders, who, if equity had been observed, have been wiped out in 1889 unless they paid assessment:"

The *Boston News Bureau* publishes the following:—

"Vice-President Reinhart of the Atchison Topeka and Santa Fé Company, gives the following official preliminary announcement:— The Atchison plan of conversion contained in circular No. 68, which will be published in full on May 25, is the completion of the reorganisation plan put in effect in October, 1889, and returns the obligations of the company, including its income bonds and capital stock, to a fixed and stable basis. The necessity of the reorganisation of the Atchison Company in 1889 arose from the fact that the net earnings of the company for the year ended June 30, 1889, were but $6,772,000, owing largely to the loss of credit brought about by a floating debt of $12,000,000, and no cash in han.. or means of procuring the same. To place the property in such condition that the road could be operated to produce the best results, the income bond created under the reorganisation was a temporary expedient, and was an obligation which was made so elastic as to permit the management of the company to use all of the cash above the obligatory fixed charges of the company, should occasion so require. After an experience of three years with the money so provided, as well as the cash produced under the reorganisation, the company reaches a point where the net earnings for the current fiscal year to June 30 will not be less than $11,700,000, which includes earnings from railway operations as well as net cash results from investments. This amount of net earnings has grown steadily since the successful outcome of the reorganisation, thus rendering substantial proof that, with ample means at the command of the company, not alone should the net earnings be made to increase, but that the holders of all classes of obligations of the company, including the capital stock, can know hereafter precisely what the operations of the company are, as well as the intrinsic worth of their securities.

"The income bondholder in the conversion will obtain a security which will return a fixed interest of known amount not subject to violent fluctuations of the market, in the absence of knowledge during the entire year as to how much his obligation will be declared entitled to.

"The stockholder will know that he is entitled to all the money produced by the company from its railroad operations and other sources over and above its known fixed charges.

"The plan provides for the creation of a second mortgage, under which there will be issued at once $80,000,000 of bonds, termed Class A, with graded interest beginning July 1, 1892, at 2½ per cent. for the first 15 months, 3 per cent. for the year beginning October 1, 1893, 3½ per cent. for the year beginning October , 1894, and 4 per cent. for the year beginning October 1, 1895, and thereafter; also for $20,000,000 bonds issued under the same indenture, termed Class B, carrying interest beginning with July 1, 1892, at 4 per cent. per annum, under which no greater amount than $5,000,000 in any one year can be issued, the roceeds of which will apply, specifically and only, to improvements, including equipment on the existing mileage of the Atchison, Topeka and Santa Fé Railroad system, as it is described in circular 63.

The advantages of this new arrangement were soon generally recognised, the only objections raised against it being those of stockholders who took exception on the same grounds as those on which they opposed the reorganisation. Under the new scheme the debt charges of the Atchison amount to $10,200,000 for 1892-3; for 1893-4 they are $10,700,000, for 1894-5 to $11,300,000, and for 1895-6 $11,700,000. These charges are decidedly below the earning capacity

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"It is also provided that, if the improvements do not call for the issue of $5,000,000 of these bonds in any one year, the excess amount of such proceeds can be applied in the year next following; but in no one year to more than the proceeds of $5,000,000.

"At the expiration of four years Classes A and B become identically the same bond issue. Coupons under these bonds are payable semi-annually.

"The right is reserved to the company in the second mortgage, after the expiration of the four years and three months, to issue in any one year not more than $2,500,000 of four per cent. second mortgage bonds for the same specific purposes up to a limit of $50,000,000, but the proceeds not to apply, however, to the extension in any direction of the company's lines.

"The outside amounts of the fixed charges of the company in the four years beginning with July, 1892, will be as follows:—For the first year, $10,200,000; for the the third year, $11,300,000; for the fourth year, $11,900,000. As before stated, the net earnings for the current year ending June 30, 1892, are not less than $11,700,000. The position of the company, with ample and stated means provided for improvements, can be readily seen. Improvements refered to include equipment. The first Car Trust for over $2,500,000, covering cars purchased in 1890 and 1891 for the company, has been cancelled, and property covered by the the same placed under the liens of the general and second mortgage. The Second Car Trust, upon which the company is at present issuing $2,500,000 of bonds will be provided for out of the second mortgage bonds Class B to be issued in the next four years.

"The value of new property placed under lien, including the equipment since the date of reorganisation of the company, October 15, 1889, approximates $10,000,000 which is $5,000,000 more than that provided from the $5,000,000 cash fund produced in the reorganisation.

"In the Atchison Company's accounts it has been the custom to include in operating expenses items strictly improvements in the form of renewals of absolutely new material and structures replacing those of lower production. This class of construction and machinery will also be covered with the proceeds from the Class B second mortgage bonds, thus tending to a reduction of the operating expenses, as has been demonstrated; also operating expenses are naturally decreased by improved condition of the plant, so that with the experience the management has had it feels entirely safe in returning the company and its obligations to a permanent basis which the management has always had in contemplation from the time when necessity for the reorganisation arose.

"The first issue of Class B bonds will be offered to present income bondholders, and the subscription has been underwritten. Two-and-a-half per cent. interest, payable September 1, has been declared on income bond coupons for the current year to June 30."

of the property. As will be seen from the subjoined statements the business of 1890-91 left an available revenue of $10,390,702, and this in spite of the fact that Southwestern crops, upon which so much depends, were far from good, while operating expenses ran very high because they included many betterments which henceforth will be charged to capital. If, therefore, the conversion imposes no heavier burdens than could have been borne in such an indifferent year as 1890, it is safe to predict that they will hardly be felt in better years like 1891-92, when net earnings, as far as announced at the time of writing, exceed those of last year by more than $1,600,000. No doubt there will be less prosperous years than the one just closed, but even then net results will hardly be worse than during the last twelvemonth. The company being now placed on a sound financial basis, and freed from the necessity of charging betterments to income, will undoubtedly reap the benefits of superior technical condition which cannot but result in decreased expenses; moreover, the natural and rapid growth of the entire Southwest must cause the Atchison's revenue to increase year by year. One of the best features of the Atchison system is that it draws its vital powers from States which have just commenced to develop themselves, States which have before them the brightest prospects of all in the American Union. Nobody who has seen glorious Southern California, who has made the acquaintance of New Mexico and of that wonderful giant, the Lone Star State — Texas — with its immense possibilities, and a future that will eclipse the future of all other States; nobody who knows what we may expect of the Indian Territory, or what immense development Kansas is capable of, or how traffic with Mexico is increasing, will deny that the Atchison can within a wonderfully brief space of time reach its old prosperity.

Below are tables showing share capital and funded debt, earnings and expenses, revenue and expenditure, and balance sheet:—

Share Capital, June 30 1892.
Common Stock $102,000,000

The issue of $75,000,000 was authorised under the reorganisation; since 1889 the capital has been increased by $22,000.000 to exchange St. Louis and San Francisco shares, and again by $5,333,400, required to pay for the Colorado Midland stock purchased in 1891. Total share capital authorised, $102,333,400.

Funded Debt:

Bonds.	*Issued.*	*Due.*	*Amount.* *Authorised.* $	 *Outstand.* $	*Rate p c.*	*Annual interest.* $	*Coupons due.*
* New 4 p.c. bonds............	1889	1989	150,000 000	130,324 000	4	6,000,000	Jan. & Jul.
Guarantee fund notes........	1888	1893	10,000,000	9,000,000	6	540,000	May & Nov.
Chic. & L. first mortgage...	1885	1915	10,000 per mile	1,500,000	6	90,000	Jan. & Jul.
St. Jos., St. L. & Sta. Fe 1st	—	—	——	8,000	6	480	——
* 4 p.c. Sec. Mortg. Class A...	1892	1989	80,000,000	80,000,000	4	2,000,000	Apr. & Oct.
4 „ „ „ „ B. .	1892	1989	20,000,000	5,000,000	4	200,000	„ „
		Total outstand		225,832,000			
*) = Quoted in London		Ann. interest charges (189-23)				8,830,480	

EARNINGS AND EXPENSES.	1891-92	1890-91	1889-90.
Miliage operated	7,130	7,114	7,110
Earnings—	$	$	$
Freight	25,806,383	23,329,649	21.733,153
Passenger.	7,377,995	7 248,693	6,610,706
Mail	895,910	871,549	742,916
Express.	809,732	769,241	764,552
Miscellaneous	1,551,167	1,444,582	1,153,027
Total	36,438,188	33,663,716	31,004,357
Operating expenses—			
Maintenance of road and structures	4,954,113	5,074,672	4,842,149
Maintenance of equipment	4,064,561	3,399,204	2,670.736
Transportation and traffic	14,956 485	14,482,150	12,334,866
General expenses.	1,235 773	1,087,142	1,072,634
Total	25,210,933	24,043,169	20,920,386
Net earnings:	11,227.255	9,620,546	10,083,970
Per cent oper. exp. to earn.	69.19	71 42	67.48

ATCHISON, TOPEKA & SANTA FE RAILROAD CO.—CONSOLIDATED SYSTEM.

INCLUDING ST. LOUIS, KANSAS CITY & COLORADO RR. CO., AND ONE-HALF ATLANTIC & PACIFIC RR. CO.

General Income Account, years ending June 30th.

		1890-91 $	1891-92 $
Gross earnings from operations		33,663,716.18	36,438,188
Operating and general expenses		24,043,169 64	25,210,933
Net earnings		9,620,546.54	11,227,255
Deduct—			
Discount on net earnings of Sonora Ry., included above in Mexican currency, reducing same to United States currency		10,409.98	
Expenses Sonora Ry., general		13,371.34	
Loss from operating Las Vegas Hot Springs property.		23,613.95	
Deduct—			
Payment to St. Louis & San Francisco Ry.Co. under agreement of Oct. 5, 1886		9,573,151.27	
Add—		260,301.61	
Receipts from other sources:		9,312,849 66	
Income from investments		351,074 02	
Sonora subsidy, August, 1890, to June 30, 1891.		267,893.95	
Sundry profits.		147,606.58	
Profit from Land Department, A. & P. RR. Co.		3,581 67	
Balance		10,083,005 88	
Direct fixed charges—			
Taxes		1,240,018.32	
Rental of track		376,180.83	
Rental of rolling stock		238,798.79	
Rental (Mojave Division A. & P. RR.). (half)		218,133 00	
Interest on bonds—			
A., T. & S. F. RR. Co. guarantee fund notes		420,000 00	
A., T. & S. F. RR. Co. 4 p.c. gen'l mtg. b'ds	5,105,054.75		
Less interest on bonds owned by Co.	80,769.08	5,024,285 67	
Chicago & St. Louis Ry. Co. first mortgage bonds		90,000.00	
St. Joseph, St. Louis & Santa Fe Ry. first mortgage. bonds.		480 00	
Atlantic & Pacific RR. Co. 4 p.c. gen'l mtg. bonds (half)		352,080	
Atlant. & Pac. RR. Co. 6 p.c. first mtg. bonds [C.D.](half)		35,685.00	
Atlantic & Pacific RR. Co. second mtg. 6 p.c. (half)	$167,000.00		
Less amount received on bonds owned	167,000.00		
Sinking fund A. & P. RR. Co., (half)		45,000 00	
Balance after obligatory charges		2,042,344.27	
Contingent charges—			
Two per cent. interest on income gold bonds for year to June 30, 1891		1,598,816.32	
Less Interest on bonds owned by Company		11,025.72	
Net surplus for the year		454,558.97	

Atchison, Topeka & Santa Fe Railroad Company—Consolidated System.

General Account, June 30th, 1891.

ASSETS. CAPITAL.	$	$	$
Franchises and property		83,912,568.44	
Property additions during the year:			
New construction	31,289 88		
Improvements	2,470,878.37		
Equipment	246,783 93	2,748,952.18	86,661,520.62
Permanent investments:			
Property in leased and auxiliary roads represented by bonds issued by such roads:			
Deposited with Union Trust Co. of New York, trustee, under general mortgage indenture	104,719,685.00		
Deposited with sundry trustees, as collateral for A., T. & S. F. RR. Co., old issues	36,526,000.00	141,245,685 00	
Property in leased and auxiliary roads represented by capital stocks owned:			
Sundry properties included in reorganisation	46,346,665 72		
St. Louis & San Francisco Ry. Co.	22,281,687.50	68,628,353.22	
Property in various collateral companies represented by capital stocks owned and wholly or partly pledged under general mortgage indenture		722,204.66	
Indirect investments represented by capital stocks deposited with Union Trust Co. of New York, trustee, owned by investment properties whose stock and bonds are pledged under general mortgage indenture		5,358,443.03	
Bonds of leased and auxiliary roads subject to exchange under Circular 63.		3 082,315.00	219,037,900.91
			305,698,521.53
Other investments:			
Sundry bonds and stocks owned by company and not included in foregoing, at cost		1,664,720.93	
Real estate and lands		2,325,539.58	3,990,260.51
Securities deliverable under Circular 63:			
Four per cent. general mortgage gold bonds	1,279,953.50		
Five per cent. income gold bonds	885,015.60	2,164,969.10	
Capital stock in treasury		385,062.50	2,550,031.60

DEFERRED.	$	$	$
Equipment in trust		2,099,981.90	
Colorado Midland Ry. Co capital stock purchase account—in adjustment		6,413,010 00	
Sundry advances for surveys, real estate, etc., which will ultimately when adjusted, be charged to cost of property		1[illegible]9,458.98	
Sundry accounts affecting operations prior to Oct. 1, 1889, likely to be closed into franchises and property		118,504.67	
Sundry accounts in process of adjustment		138,396.38	
Sundry deposits for contingent purposes		24,3[illegible]9.52	
Due from sundry auxiliary companies for advances, etc.		6,139,515.09	
Material and fuel in stock		1,476,967.52	16,545,194.06
CURRENT.			
Accounts receivable:			
Due from agents, companies, individuals, and U. S Government in current operating and traffic account		3,135,452 93	
Bills receivable		307,768 55	
Demand loans:			
St. Louis & San Francisco Ry. Co., secured	3,361,556.05		
Colorado Midland Ry. Co., "	426,118.45	3,787,744 50	
Cash:			
Deposits.			
Treasurer, Topeka.	1,930,738.99		
Assistant treasurer, Boston	1,039,707.60		
Auxiliary companies	674,060.53		
	378,625.07	4,023,132.19	
Securities in treasury available for payment of current obligations:			
Four per cent. general mortgage bonds and scrip	3,799,816 23		
Five per cent. income gold bonds and scrip	423,041.00		
Guarantee fund notes	2,000,000.00	6,222,857.23	17,476,955 40
			346,260,903.10

Atchison, Topeka & Santa Fe Railroad Company—Consolid. System. General Account, June 30th, 1891.

LIABILITIES.		$	$	$
CAPITAL.				
Capital stock				
Funded debt:				
Four per cent. general mortgage gold bonds:				
Authorised issue	$150,000,000.00			
Less amount reserved for future treatment	19,676,000 00	130,324,000.00		
Five per cent. income gold bonds		80,000,000.00		
Guarantee fund notes		9,000,000.00		
Chicago & St. Louis Ry. Co. first mortgage 6 p. c. gold bonds		1,500,000.00		
St. Joseph. St. Louis & Santa Fe Ry. Co. first mortgage 6 p. c. bonds. . .		8,000 00	220,832,000 00	322,832,000.00
Sundry old bond issues called for deposit under Circular 63				*1,720,315,000
Union Trust Co. of New York, trustee, certificates representing new securities deliverable for old bonds depos. under plan of reorganisation .				77,864.98
Securities owned by various leased and auxiliary companies, held in trust and deposited as collateral under general mortgage (see contra) .				5,358,443.03
Subscriptions account of Circular 63				1,600.00
CURRENT.				
Accounts payable:				
Due to companies, indiv., etc. in current operating and traffic account			5,199,894 76	
Bills payable (for loans to St. Louis & San Francisco Ry. Co. and Colorado Midland Ry. Co.)			3,732,700 00	
Bond interest matured:				
Due July 1, 1891, on four per cent. general mortgage bonds and scrip		2,565,013 00		
Coupons past due, not presented		214,040 39	2,779,053.39	
Interest on bonds accrued, but not now due:				
Interest declared earned on income bonds for year ending June 30, 1891		1,598,816.3		
Interest on bonds not called for exchange		100,200.00	1,699,016 32	
Taxes accrued:				
Balance accrued to June 30, 1891, but not now due nor payable until December, 1891, and thereafter		635,609 52		
Less Further offsets for payments made		38,151.59	597,457.93	
Dividends past due, not yet claimed			2,666.00	
Scrip certificates issued, not yet presented.			158.00	14,010,946 40
INCOME AND SURPLUS.				
Surplus for nine months ending June 30, 1890		770,133.97		
Deduct: Sundry items applicable to that period.		5,211.10	764,922 87	
Surplus for year ending June 30, 1891			1 494,87091	
Surplus to June 30, 1891				2,259,793 78
				346,260,963.19

* Includes bonds assented and not yet deposited This amount has been reduced since June 30 to $1,674,315.00,

The commodity movement in the fiscal years to June 30, 1890, and 1891 shows that, while there was a decrease in grain movement in the year to June 30, 1891, following the poor crop year of 1890, the tonnage of merchandise, manufactures, coal, lumber, ores, etc., which truthfully indicates the prosperity of a new country and the substantial basis for the development of the traffic of a railway system, increased handsomely in the year now reported, and this illustrates an actual and healthy growth and prosperity, not spasmodic.

FISCAL YEARS TO JUNE 30.	*1891.* Tons.	*1890.* Tons.	*Increase.* Tons.	*Decrease.* Tons.
Products of agriculture	1,483,279·1	1,921,591·3		438,312·2
Animals and products	1,009,829·1	1,097,911·4		88,082·3
Coal and coke	1,914,431·5	1,726,806·6	187,624·9	
Ores	390,035·0	264,778·3	125,256·7	
Stone, etc.	586,512·8	572,712·2	13,800·6	
Lumber	727,355·1	684,777·9	4[illegible],577·2	
Manufactures and merchandise	1,668,780·6	1,454,731·2	214,049·4	
			Net Incr.	
Totals	7,780,223·2	7,723,308·9	56,914·3	

Products of agriculture above noted include grain of all descriptions, cotton, etc., and the entire movement for the year to June 30, 1891, was, of grain but 10·08 per cent. and of other agricultural products 8·98 per cent., a total of but 19·06 per cent. of the aggregate tonnage hauled. While the products dependent upon crop conditions showed a decrease of 438,312·2 tons, commodities not affected by weather, but following growing population and necessities, increased 583,306·8 tons. The latter traffic will steadily increase; while, with the promising large hauls from products of agriculture for the current year, the business of your lines should be large. The fact also is exemplified from the foregoing that the Atchison system of railroads is now serving its patrons instead of drawing from them only, as formerly, which is bringing it nearer in character to the large Eastern railway systems in the older and more settled parts of the country.

In connection with freight traffic movement during the year ended June 30, 1891, it is well to note that the average rate of freight shows an increase over that of the previous year of 37-1,000 of a cent per ton per mile, and the average haul per ton an increase of 8·49 miles.

For a line in a new country the Atchison is in a very satisfactory condition. I went over most of its main roads during the latter half of 1891, and found everywhere signs of recent improvements and of careful and judicious management. Mr. Allen Manvel, the president, has had a good school, for he was traffic manager of the St. Paul, Minneapolis and Manitoba RR. under Mr. James J. Hill, than whom there is no greater master of detail nor a better manager among American railroad presidents. The main line from Kansas City to Chicago is one of the best in the West, and those in Kansas as well as the St. Louis and San Francisco system have recently undergone extensive improvements which cannot fail to reduce operating expenses. The rolling stock is satisfactory as regards quality but a trifle deficient in quantity; arrangements have, however, been made for considerable additions.

The foregoing tabular and other statements relate to the consolidated system, which includes all lines except the St. Louis and San Francisco and the Colorado Midland; these two are operated separately because their bonded debt has not been assumed by the Atchison, although this company owns their stock. A few cursory remarks will suffice in the case of all subsidiary companies save the Atlantic and Pacific and the two leased systems. Their shares are almost exclusively owned by the Atchison, among the assets of which they figure (see balance sheet) and are either held by that company itself or deposited as collateral. The direct return is but small, being only some $785,000 on stock and bonds with a face value of $138,000,000 which have cost the company $68,600,000, but of course there are indirect gains to offset this loss, although it would be difficult to say to what extent.

The *Gulf, Colorado and Santa Fé* was added to the system in 1886 and embraces all lines in Texas, 1,058 miles. The *Kansas City Belt Railway*, but few miles long, is half owned by the Atchison, and provides the company with terminal accommodation in Kansas City.[1] The *St. Louis, Colorado and Kansas City* is a small local line near St. Louis. The *Sonora Railway* system lies in Mexico and Arizona, connects El Paso with Guyamas on the Gulf of California, and is 350 miles long; it is endowed with a subsidy by the Mexican Government, which owed to it on August 1, 1890, $1,681,400 in Mexican currency, this debt being gradually reduced by monthly payments of $30,000. The company opened its line in 1882 and has been controlled by the Atchison from the time of its construction. The *Southern California Ry.* owns 475 miles of railroad in Southern California, radiating from Los Angeles and connecting with various points along the coast and throughout the fruit belt of Los Angeles and San Bernardino counties. These districts produce vast quantities of superior fruit, which is mostly canned and shipped in Cape Horn because railway rates are too high; nevertheless the fruit traffic of the Atchison grows uninterruptedly and is capable of considerable development if it can be conducted at a profit with low rates. The Atchison is further interested in several elevators and mining properties, notably in coal mines in Colorado and New Mexico which provide freight and fuel for its Western lines.

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[1] The Kansas City, Fort Scott & Memphis and M. K. & T. are part owners of this RR.

THE ATLANTIC AND PACIFIC RR.

was chartered as early as 27th July, 1866, and, like other Pacific roads, received from Congress land grants in the same ratio to the mileage completed as on the Northern Pacific — namely, 25,600 acres for each mile completed in Territories and 12,800 acres for each mile completed in States.

Of this railroad only a few miles were built before it was befallen by financial embarrassments which caused construction to be discontinued. In 1870 the company amalgamated with the South Pacific of Missouri, but the consolidation was pronounced illegal by the Courts; in 1876 both were absorbed by the St. Louis and San Francisco RR. (q. v.) but this company likewise lacked the funds essential to continue the work, which was started in 1867 and not resumed until the Atchison had become interested in the scheme. The latter induced the St. Louis and San Francisco to transfer to it one-half of its interest in the A. & P., and this proposal being accepted, both companies in 1880 offered to their shareholders $10,000,000 first mortgage bonds of the A. & P. at par and with a bonus of 50 per cent. in income bonds; the companies, however, reserving the right to cancel these bonds until 40 per cent. was paid up, in which case the applicants could retain the incomes. This right was taken advantage of in 1881 when 6 per cent. Western division bonds were offered. At that time Gould and Huntingdon controlled the S. L. and S. F., the former to prevent the extension of that company into the Indian Territory, the latter to restrain the Atlantic and Pacific, managed by the S. L. and S. F., from building a line to San Francisco which would compete with his Southern Pacific, which see. Both capitalists achieved their purpose, an understanding with the Atchison being arrived at according to which the line was to be extended only as far as the Needles, whence the Southern Pacific would build a branch to Mojave, on the Southern Pacific; the A. & P. was to obtain running powers over the S. P. line to San Francisco. In 1883 the road was completed as far as the Needles, funds having in the meantime been obtained by issuing bonds and by borrowing from the Atchison and S. L. & S. F. In 1883 the capital of the company consisted of $26,080,210 bonds of several descriptions, mostly guaranteed by the two companies, and $51,510,300 in shares; there was also a floating debt of some $3,000,000.

In 1884 the company purchased from the Southern Pacific its branch from the Needles to Mojave for $7,271,000, but cannot take possession of the property until the bonds issued thereon expire in 1905. Until then the A. & P pays 6 per cent. on the purchase price ($436,266) by way of rental, payment being guaranteed by the two proprietary companies. In 1890 the purchase of the S. L. & S. F. shares by the Atchison caused the A. & P. to pass entirely into the latter's control; both companies guarantee 25 per cent. of gross earnings, and as operating expenses amount to well-nigh 100 p.c. of gross receipts ($3,253,977 in 1891) the lessees have to pay some $800,000 by way of annual rental; in addition they are called upon to carry into effect their guarantee of the bonds, of which many are in possession of the two companies. The capitalisation now, amounts to $79,760,300 stock ($1,478,700 preferred) and $38,913,534 bonds; the debt to the Atchison and St. L. & S. F. companies amounts to $10,841,924, the deficit for 1891 was $1,796,509, and the total deficit up to July 31st, 1891, $8,874,656. The company received a land grant of 20,295,296 acres, of which it has sold 5,334,161 acres; the proceeds from these sales are included among earnings.

It will be seen from the foregoing that the ownership of the A. & P. results in a considerable direct loss to the Atchison, but presumably this is more than offset indirectly At Barstow the A. & P. connects with the Southern California, which is likewise part of the Atchison, and this system as well as the San Francisco connection gives the Atchison a growing traffic at good rates which is carried over long distances by the controlling company. The A. & P. lines are 947 miles long, the main track from Isleta to Mojave covering 835 miles; there is also a road 112 miles long in the Indian Territory, not connecting with the main line but with the St. L. and S. F.

It was at first intended to connect this with the main line to the Needles, but owing to the Huntingdon régime the project was dropped.

THE ST. LOUIS AND SAN FRANCISCO RR.

The present main line of this company was the Southwestern line of the Pacific RR. of Missouri mentioned on p. 592 and was therefore part of the system which gradually developed into the Missouri Pacific. As is mentioned in Chap. XLI this Southwestern branch was seized by the State of Missouri in consequence of the inability of the Pac. Ry. to repay an advance of $7,000,000 and sold in 1866. The purchasers pledged themselves to complete the main line, but as they were unable to redeem this promise the property was again sold in 1868, the buyer being the South Pacific of Missouri, which in 1870 was acquired by the Atlantic and Pacific (see above). The South Pacific had completed the line as far as Pierce City, Mo., and the Atlantic and Pacific extended it to Vinita on the Missouri, Kansas and Texas. The A. & P. was a considerable system then, although it had scarcely begun to build the line to the Pacific coast for which it had obtained a charter; it leased the Pacific Ry. of Missouri, but being unable to pay the rental, in 1875 the entire concern went into the hands of a receiver, and a reorganisation or rather dissolution of the company followed in 1876. The Pacific Ry. of Mo. regained its independence and developed into the Missouri Pacific, and the Vinita lines became the property of the St. Louis and San Francisco RR.

Until 1879 the company had no other property than the line from St. Louis to Vinita, but in that year extension commenced, the company buying the charters of several railways on which construction had not yet begun. Having done this it began to build a line to Wichita, a town which was being boomed just then,[1] and another connecting with the coal mines near Joplin, Kan., etc. In the same year the new Atlantic and Pacific was organised (*q. v.*) but owing to lack of funds the project of extending this line to the Pacific coast could not be carried out until the Atchison offered its assistance in 1876, a fact to which reference has been made in the preceding pages. In 1882 Gould and Huntingdon bought a majority of shares, the former to prevent extensions in the Indian Territory, the latter to retain his monopoly of traffic with San Francisco. These two gentlemen having achieved their respective purposes they sold their interest, and after some time this was acquired by the Atchison, which in 1890 purchased the common and preferred stock ($10,000,000 pref. and $35,500,000 common) and issued $27,000,000 of its own stock instead. There were also $4,500,000 *first* preferred S. L. and S. F. shares which were exchanged into 4 p. c. general mortgage bonds guaranteed by the Atchison. These bonds were part of the issue of $50,000,000 authorised in 1890; $36,077,500 are reserved to retire older descriptions as they fall due, and the residue of $13,922,500 is reserved for exchange of the first preferred stock ($4,500,000) for retirement of Atlantic and Pacific second sixes ($2,800,000) and for betterments ($6,622,000). These betterments were urgently wanted, the company being, before the issue of this general mortgage, compelled to pay out of earnings for betterments which it could not do without.

Subjoined are the customary tables, showing earnings, expenses, income account and balance sheet; statement of funded debt and share capital is included in the balance sheet, and fixed charges are shown on income account. The year 1891 closed with an apparent deficit of $99,344, and in addition there was a loss on the A. & P. RR. amounting to $650,129 in 1890-91, thus making the St. L. & S. F. total deficit $749,473. As $774,258 of the expenditures stated in the income account are to be provided for, however, from sales of general mortgage bonds, the result for 1890-91 is a surplus of $24,785.

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[1] See Chap XXXIX.

In 1891 the company carried 2,133,000 tons of freight, or 455,500,000 tons over a distance of one mile. The average distance carried was 213·55 miles, and the average rate reached as high a figure as 1.278 cents. As regards passenger traffic, 75·88 million passengers were carried one mile. The average distance travelled was 50·91 miles, the rate 2.415 cents. Of the total of 2,133,000 tons of freight carried 122,006 tons consisted of grain, 162,000 tons of other agricultural produce, including tobacco and cotton, 198,000 tons were products of animals, 848,008 tons were products of mines, chiefly bituminous coal, 275,000 tons lumber, and the rest consisted of merchandise, manufactures, etc.

The lines are at present in a satisfactory condition throughout, and when travelling along them one sees that numerous extensive improvements have been carried out recently. While I was in Missouri I was told that the 'Frisco line' is to a certain extent farmed by the Atchison, and no doubt it is of importance to this company whether the Atchison has a large traffic to the Northeast or not. For, if the main system is kept busy, as it was in 1891-92, a considerable amount of traffic is thrown upon the S. L. & S. F., while in bad years the reverse may be the case to a small extent, because if it chooses to do so the Atchison can draw traffic from the Southwestern 'business end' of the 'Frisco line' and throw it upon its own route.

Income Account for the Years ending June 30th, 1891 and 1892.

	1892. $	1891. $
To Operating and general expenses	4,013,184 00	3,840 858.56
„ Taxes	Preliminary.	181,612 06
„ Improvements		198,036.86
„ Interest on bonds		1.761 208 33
„ Interest on bonds as rentals		229,875 00
„ Other interest and discount		239,385 60
„ Sinking funds		187,234 18
„ Rental of tracks and terminals		132,966.64
„ Rental of locomotives and cars		2,848.34
„ Equipment		146,740 74
		6,920,778.28
To Balance		99,344.14
By Gross earnings	7.053,228.00	6,748,508.08
„ Other income		72,926 06
Balance		99,344 14
		6,920,778.28

Memorandum of Income Account (Including St. L. & S. F. Ry. Co.'s Operations and Charges) for the Year ending June 30th, 1891.

	$	$
1891.		
June 30. Deficit St. L. & S. F. Ry. Co. for the year as above	. . . . .	99.344 14
Add Advances to Atlantic & Pacific RR. Co., as follows:		
Account its 4 p.c. guaranteed bonds interest. . . .	121,959.86	
„ „ second mtg. 6 p.c. „ „ one-half.	*168,000.00	
„ „ Cent. div. first mtg. „ „ „	†85,730.00	
„ „ Mojave division rental „	218,133.00	
„ „ West div. taxes „	50,000.00	
„ „ W. D. second mtg. bond, S. F. „	45,000 00	
„ „ Cent. div. operating deficiency „	11,305 77	650.128.63
Total deficit St. L. & S. F. Ry. Co.	. . . . .	749.472 77
Included in charges against St. L. & S. F. RR. Co. INCOME ACCOUNT are the following items, which will be provided for OUT OF CAPITAL furnished by the issue of new consolidated mortgage bonds or thereby eliminated, viz.:—		
Improvements	198,038.83	
Interest and discount	239,395 60	
Sinking funds	187,234 18	
Equipment	146.740.74	
Rental of locomotives and cars.	2,848.34	
Total	. . . . .	774,257 69
Deduct Total deficit shown above.	. . . . .	749.472.77
Remains above all charges.	. . . . .	24,784 92

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* The acquisition of these bonds by the St. L. & S. F. Ry. Co. reduces this annual charge.

† The refunding of these 6 p.c. bonds by the Atlantic & Pacific RR. Co., to be effected Nov. 1, 1891, through substitution of its guaranteed 4s, will reduce this annual charge.

General Balance Sheet, June 30th, 1891.

	$	$
Franchises and property[1]	—	57,314,359.46
Roads of auxiliary companies under trust mortgage of 1887.	1,562,677.43	
Additional during year ending June 30, 1891.	1,025 90	1,563,703.33
Lebanon Road (St. Louis & Western Ry). .	—	30,000.00
		58,908,062.79
Property of leased lines represented by their mortgage bond issues, contra . . .	—	4,482,000 00
Resources:		
Cash on hand at Boston, St. Louis, and New York	537,567.18	
Due from station agents and conductors, and other sources	158,979 20	
Due from other railroad companies	39,789.29	736,335 67
Bills receivable	3,183,314.19	
Sundry open accounts, including that against Atlantic & Pacific RR. Co.	1,468,061.16	
Materials and supplies on hand	204,323.64	4,855,698.99
Stocks and bonds of other companies owned, including those of Atlantic & Pacific RR. Co. and of auxiliary and proprietary roads, held in treasury or deposited as collateral security for floating debt or issues of trust mortgage bonds of this company	49,616,076 00	
Cost of above as standing on books.	—	2,202,007.63
This company's 'A' bonds.	800.00	
Less due for scrip	606.84	193 16
Capital stock (common) in treasury	—	23,640,700.00
Lands in New Mexico and Arizona owned, cost of.	—	910,938.59
Land Department Assets:		
Lands, town lots, contracts for sale of lands, etc.	493,048 71	
		95,735,936 83

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[1] Includes amount of cancelled bonds erroneously credited franchises and property account prior to June 30, 1890.

General Balance Sheet, June 30th, 1891.

	$	$
Capital Stock:		
Common	35,500,000.00	
Preferred	10,000,000.00	
First preferred	4,500,000 00	50,000 000.00
Bonded Indebtedness:		
'A.' 'B.' & 'C.' 6's (formerly second, now first lien)	5,666,500.00	
Missouri & Western division first mortgage 6's.	1,071,000.00	
First mortgage trust 6's of 1880	1,128,000.00	
First mortgage trust 5's of 1887	1,099,000.00	
Equipment 7's of 1880	277,000.00	
Equipment 6's of 1884	143,000 00	
General mortgage 6's	7,807,000.00	
General mortgage 5's	12,293,000.00	
St. Louis, Wichita & Western Ry first mtg. 6's.	2,000,000.00	31,484,500.00
Contingent Bonded Indebtedness:		
Mortgage bonds of leased lines:		
Ft. Smith & Van Buren Bridge Co. first mtg. 6's.	430,000 00	
Kan. City & Southwestern RR. Co. first mtg. 6's	744,000.00	
St. Louis, K. & Southw. RR. Co. first mtg. 6's	890,000.00	
St. Louis, Salem & Arkansas Ry. Co. first mtg. 5's.	810,000 00	
Kansas Midland Ry. Co. first mtg. 4's.	1,608,000 00	4,482,000.00
Other Liabilities:		
For current operations	492,147.83	
Due other railroad companies	43,003.78	
Interest on bonds past due, but not called for	43,870.00	
Drawn bonds past due, but not presented	10,450.00	
Interest on bonds due July 1, 1891	563,855.00	1,153 326.61
Atchison, Topeka & Santa Fé RR. Co.:		
Demand loans	—	3,361,556 05
Bills payable	—	450,000.00
Sundry open accounts	—	162,229.76
Scrip outstanding for 'B' & 'C' bonds and for first preferred stock	—	1,675.00
Interest accrued on bonds and bills payable to June 30, 1891, but not yet due	—	204,389.99
Sinking funds accrued to June 30, 1891, but not yet due	—	46,570.01
General Income Account:		
Balance at credit of account, June 30, 1890	3,369,253.25	
Less amounts charged general income account during year, which should have been charged prior to June 30, 1890	113,199.70	
	3,256,053.55	
Income account, June 30, 1891, debit balance	99,344.14	3,156,709 41
CANCELLED BONDS	—	1,293,000 00
		95,795 956 83

ST. LOUIS & SAN FRANCISCO RAILWAY COMPANY.

Table showing Mileage, Gross Earnings, Expenses, Improvements and Taxes, Net Revenue, Percentage of Expenses, and Gross and Net Revenue per Mile of Railway for Years as under.

Years.	Average mileage.	Gross earnings.	Expenses, improvements, and taxes.	Net earnings.	Percentage of expenses.	Per mile.	
		Thousands of dollars.				Gross earnings.	Net earnings.
		$	$	$		$	$
1877	327	1,323	673	650	44·17	4,048	1,988
1878	327	1,201	648	553	47·89	3,674	1,692
1879	397	1,672	835	836	43·28	4,218	[illegible]
1880	546	2,698	1,325	1,373	43·12	4,940	[illegible]
1881	624	3,160	1,582	1,878	42·25	5,061	2,527
1882	677	3,572	1,591	1,980	39·77	5,279	2,926
1883	734	3,896	1,823	2,073	40·88	5,305	2,823
1884	786	4,643	2,135	2,508	42·07	5,906	3,190
1885	815	4,383	1,949	2,493	41·28	5,379	2,986
1886	878	4,874	2,222	2,652	42·03	5,554	3,022
1887	1,095	6,229	2,981	3,247	42·83	5,688	2,965
1888	1,315	5,773	3,663	2,109	58·12	4,390	1,604
1889	1,329	6,052	3,460	2,592	53·94	4,554	1,950
1890	1,329	6,394	3,646	2,747	54·42	4,811	2,067
1891	1,329	6,748	4,220	2,527	56·91	5,077	1,902
1892	1,329	7,053	4,013	3,040	56·92	5,314	2,285

THE COLORADO MIDLAND.

This line was chartered in 1883 and opened for traffic in October, 1888; it runs from Colorado Springs to Grand Junction, where it connects with the D. & R. G. Western, using the Denver and Rio Grande Junction Ry. and several other parts of the D. & R. G.; the total length of the system is 350 miles, of which 267 are owned. The road connects in Colorado Springs with the Denver and Santa Fé, that section of the Atchison which gives access to Denver. "The entire length of this railroad (the Denver and Santa Fe) practically parallels a part of the Denver and Rio Grande and had no means of securing any business from the large resources of the interior of Colorado except what might be given it by the latter. The road in this situation was a drag on the main stem, and in September, 1890, to correct this condition of affairs, and to assure to the company its proportion of the general traffic of Colorado, to which it was entitled through its investments in this section, it was determined to purchase outright the Colorado Midland Railway extending from Colorado Springs on the Denver division through Aspen, Leadville, Rifle Creek, and other important centres of business in Colorado to Grand Junction, which latter point communicates with the Rio Grande Western Railway, thereby not only drawing a large and a remunerative traffic to your Denver division, but a heavy through business to your main line."[1] The purchase of the Colorado Midland was effected in September, 1890, and included the acquisition of its entire stock of 80,000 shares ($8,000,000) as well as the guarantee of its four per cent. mortgage bonds. The cost of the property, including its capital stock, was

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[1] Atchison annual report, 1891, p. 18.

$6,400,000, in adjustment of which $4,405,500 was paid in Atchison stock and $2,012,510 in cash. Upon the final adjustment the actual cost will stand at $4,400,000 Atchison stock, at par, and about $1,900,000 in cash. There was no increase in the issue of the company's capital in obtaining this acquisition, which in the report is justly called valuable, for during the eight months there was not only an actual profit, but in addition a large indirect income was derived from the Rocky Mountain traffic, which the Atchison thereby obtained. In 1891 the Midland was worked for eight months only, and during that time the Atchison proper received from freight and passenger business in exchange with the Colorado Midland $479,000. The net profits of this exchange of traffic are stated to be about $139,000, or $62,000 more than the deficit of the Colorado Midland, after meeting all charges of every description for the same year.

This seems to imply that the addition results in some benefit to the system, and no doubt the Midland would prove advantageous in a pronounced degree if it received some support from other roads. Unfortunately the reverse is the case, for as soon as the Midland was acquired by the Atchison the other roads connecting with Chicago preferred giving all their traffic to the D. and R. G. to strengthening its competitor by sending freight over its Colorado line, and the lines East of Denver exclude the Colorado Midland as far as possible from interchange of traffic with the East. After a while this phenomenon will probably cease to exist, as it does in all analogous cases, and in Denver it is thought by no means unlikely that the Atchison sooner or later will acquire the monopoly of the Rocky Mountain business by absorbing the D. and R. G., or a greater share than now by extending the Midland. In addition there are rumours of a new Atchison line from Salt Lake to the Pacific Coast, which would be built either on its own account or for joint account with the Rio Grande. If such a project exists and is carried out the Atchison will become the most important transcontinental railway.

The following statistics relate to the Colorado-Midland's business:—

EARNINGS AND EXPENDITURE.

	1890—91. $
Earnings—	
Freight	1,591,926.50
Passenger	294,231.52
Mail	23,093.31
Express	34,625.57
Miscellaneous	24,389.63
Gross earnings	1,968,266.53
Operating and general expenses	1,386,899.15
Net earnings	581,367.38
Fixed charges—	
Rental of tracks and terminals	54,461.53
Taxes	76,248.04
Interest on bonds—	
First mortgage	375,000.00
Consolidated mortgage	80,000.00
Equipment, first series	33,833.33
„ series B	12,900.00
Collateral trust notes	19,833.33
Deficiency after fixed charges	70,908.85
Other charges—	
Interest and discount	5,916.95
Total deficit for the year	76,825.80

TRAFFIC STATISTICS.

Freight:	
Tons carried	478,599
Tons carried one mile	68,734,000
Average distance carried	129 miles.
Average rate per mile	2.579 cents.
Passengers:	
Number carried	147,789
Number carried one mile	8,245,000
Average distance travelled	55·7 miles.
Average rate per mile	3.569 cents.

Nearly 70 per cent. of the total freights consisted of ores and other mining products.

CHAPTER XLI.

THE MISSOURI PACIFIC RAILWAY.

The origin of this company dates back as far as 1849, when the Pacific Railway Company of Missouri was chartered. This corporation obtained powers to build a railway from St. Louis to Kansas City, as well as a branch penetrating into the Southwest of Missouri, and received State aid in the shape of an advance of $7,000,000, in addition to a land grant of some 1,600,000 odd acres. Construction proceeded very slowly, and the road to Kansas City, 283 miles long, was not completed before 1865. The branch leading to the Southwest and part of the land grant belonging thereto were confiscated by the State of Missouri in 1866 because of the non-payment of interest on the advance of seven millions above referred to, and in 1868 the Legislature passed a Compromise Act, in accordance with the terms of which the Government accepted a cash payment of $5,000,000 in settlement of all its claims. The confiscated property was sold to that part of the Atlantic and Pacific RR. Company which is now the St. Louis and San Francisco, but this corporation leased it to its builder in 1872. Four years later, however, it was sold in foreclosure and purchased by the Pacific RR. of Missouri.

The Missouri Pacific defaulted in 1875 and was sold to C. K. Garrison and others, including Mr. Gould, for $300,000; a proceeding which led to litigation, it being alleged that Mr. Garrison *c.s.* had acquired possession by fraudulent means, but this could not be proved before the U. S. Supreme Court. The purchasers gave the company its present name, assumed the first and second mortgages and all other liabilities of the old concern, with the exception of the third mortgage bonds, and issued shares to the amount of $800,000. In 1880 the new corporation absorbed a number of smaller lines which had hitherto been leased to it, and its total mileage rose thereby to a little over 900 miles; meantime the share capital was increased to $12,419,000, the stock of the absorbed companies being exchanged, and their bonded and other debt assumed. In 1881 the Mo. Pac. became owner of the St. Louis, Iron Mountain and Southern RR., some 700 miles in length, and exchanged the shares of that company for its own certificates in the ratio of four for three, and in addition the company either directly or indirectly leased the M. K. & T., International and Great Northern, Texas and Pacific, and Wabash systems, as well as the Central branch of the Union Pacific, these lines having a total length of over 9,300 miles. They constituted Gould's famous Southwestern system, and were temporarily combined by means of some of the most disreputable machinations and 'deals' ever recorded. The Missouri Pacific obtained control of all these roads without assuming any liabilities whatsoever, and clearly for the purpose of manipulating the stock market. The companies reported and kept their earnings separately, but the Missouri Pacific could if it saw fit make advances in case any of the leased lines earned less than was necessary to pay its annual charges; if it refused, the lessors could terminate the lease. Naturally, advances were only made as long as it suited Mr. Gould's purposes, and this period terminating in 1887, the leases of the Wabash and Texas and Pacific were discontinued in that year. The Missouri, Kansas and Texas separated in 1888, and the International and Great Northern was for three years owned jointly by the Missouri, Kansas and Texas and the Missouri Pacific, but an arrangement was recently arrived at between the two companies in accordance with which all its stock became the property of the Missouri Pacific.

In 1886 the Missouri Pacific commenced the construction of a number of branch lines, most of which are situated in Kansas, where they compete with the Atchison; the Saint Louis and Iron Mountain also extended its lines. Several smaller companies have been acquired and branches constructed since, and as a result the system embraced on December 31st, 1891, 5,289 miles of railroad, specified below.

Missouri Pacific proper	1,542·4	miles
Owned and leased branches	1,649·1	„
Total Missouri Pacific	3,191·5	„
Leased and operated:		
St. Louis, Iron Mountain & Southern RR.	1,547·2	„
Central branch Union Pacific RR.	388·2	„
Sedalia, Warsaw & S. W. (narrow gauge)	43·2	„
Houston Central, Arkansas & No.	118·7	„
Total	5,288·9	„
To this has been added in 1892:		
International and Great Northern	825·4	„
Total length of system.	6,114·3	„
Average mileage operated in 1891	5,282·6	„

The lines directly operated by the Missouri Pacific connect St. Louis with Omaha, Lincoln and other points in Nebraska, Pueblo (communicating with Denver by the D. & R. G.) and numerous points in Kansas and Missouri (including Kansas City, St. Joseph, Atchison and Boonville.) The Iron Mountain lines give the Southwestern capital communication with points in Eastern Missouri, Arkansas, Louisiana and the Indian Territory, and connect with the Texas and Pacific (for El Paso and New Orleans) and with the International and Great Northern (for Galveston on the Gulf and Laredo on the Mexican border.) The system therefore connects all settled parts of the Southwest with St. Louis, where it meets the lines to the East; in addition it forms a junction at Memphis, Tenn., and Arkansas City with two main lines of Gould's Richmond Terminal system, thereby obtaining direct connection with Washington. These connections are valuable because, as we have stated in Chap. XLIII., the way from Texas, etc., to the East does not lead via St. Louis, but through the Southern States, and their existence has probably led the concoctors of Wall Street gossip to manufacture reports to the effect that Mr. Gould, to punish some Association, "intends to divert the traffic of his entire Missouri Pacific system from St. Louis and to throw it upon his Southern system." The folly of such an assertion must be at once apparent from a cursory glance at a map. The only outlet for the Kansas traffic of the Missouri Pacific is St. Louis, and if Mr. Gould could give this traffic to his Richmond Terminal system he might have done so long ago. But as far as Arkansas is concerned, traffic will undoubtedly be more and more led East via the Richmond Terminal, and in an intensified degree the same prospect exists for the Texas business of the other Gould roads.

The Missouri Pacific system occupies a very advantageous position, having in the most important branches of its business no other rival than the Atchison, while a most promising region which leaves vast scope for further development is tributary to its lines. As a result the company is in a flourishing condition, despite the large investments it has made in auxiliary concerns which as yet fail to offer returns upon their capital. Its traffic, as will be seen from the subjoined statements, approximately reaches the same proportions per mile as on the St. Paul, amounting in 1891 (for the entire system of 5,283 miles) to 1,719 million ton-miles and 213 million passenger-miles, and resulting in earnings to the amount of $23·3 millions. On the Mo. Pac. proper it was of a still more satisfactory nature: 1,542 miles earned from traffic alone a little over nine millions, in proportion more than the Rock Island. Indeed, as the subjoined tables show, earnings have always been satisfactory, and having neither an excessive capitalisation nor heavy operating expenses, the company has for a number of years done exceedingly well, with the result that it has been in a position to pay substantial dividends. From 1880 until 1882 it declared 6 p.c. per annum, and after that 7 p.c. until 1888, in which year the quarterly payment was reduced first to 1½ and then to 1 p.c., being maintained at this level until October, 1891, when it was suddenly discontinued, and has not since been resumed. This surprise was closely connected with Mr. Gould's control, and brought about a sharp fall in the price of the stock. As far as the published accounts go, no reason can be detected why the dividend should have been suddenly dropped. The report for 1891 makes no attempt at an explanation, though the income account shows a decline in 'revenue from other sources' presumably arising from failure of the Iron Mountain to pay a dividend. Why this failure occurred no outsider can discover; earnings have in all cases been normal, and hence there is little doubt that Mr. Gould has made the most liberal use of the discretion he is invested with. The Missouri Pacific is one of the very few companies that shirks publicity, but there prevails a general belief that the dividend would not have been passed had not that course suited Mr. Gould's purposes. Fortunately that gentleman enjoys such a very small amount of confidence among bona fide investors that this class gives his securities a wide berth, and the harm he does is therefore almost exclusively confined to the gambling gentry of Wall Street and to the effect his proceedings have upon the reputation of American business methods. Our purpose renders a detailed discussion of the system of management superfluous; we may, however, observe that little is known of the floating debt of the company, that the public are absolutely in the dark concerning its immediate prospects, and that there are due for 'advances by directors' $3,642,528 in the case of the Missouri Pacific and $680,390 in the case of the Iron Mountain. Apparently there is nothing to prevent the board from paying these advances in cash — which would compel the company to default on its interest.

Below are the customary tables:—

Volume and Results of Freight and Passenger Traffic on the Missouri Pacific PROPER *for eight years ending 1891.*

Year.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1884	965	80·5	2.54	2,043,457	419·5	1.44	6,047,339
1885	995	83·3	2.44	2,032,244	406·9	1 29	5,263,704
1886	1,084	87·7	2.34	2,049,228	475·2	1.19	[illegible]
1887	1,183	106·5	2.37	2,532,101	651·4	1.12	7,[illegible]32,719
1888	1,336	100·8	2 27	2,291,430	609·9	0.98	5,991,084
1889	1,422	91·1	2.33	2,120,649	640·7	0.97	6,220,310
1890	1,448	111·1	1.92	2 132,890	747·0	0.86	6,451,710
1891	1,542	97·0	2.22	2,153,790	728·2	0.94	6,872,605
Missouri Pacific *System*, including all lines except Iron Mountain.							
1888	4,813	204·2	2.48	4,964,473	1288·5	1.15	14,770,942
1889	5,019	197·5	2.45	4,845,651	1428·6	1.13	16,178,135
1890	5,109	236·7	2.16	5,119,783	1744·2	1.02	17,901,277
1891	5,288	213·4	2.38	5,070,048	1719·5	1.06	18,224,466

MISSOURI PACIFIC SYSTEM (WITHOUT IRON MTN.)

EARNINGS AND EXPENSES.

	1891.	1890.	1889.
Miles operated December 31	3,191	3,145	3,119
Earnings—	$	$	$
Passengers	2,663,798	2,742,808	2,665,354
Freights	8,865,315	9,174,427	8,286,682
Mail, express and miscellaneous	1,691,984	1,589,294	1,624,184
Total earnings	13,221,097	13,506,529	12,576,220
Expenses—			
Transportation	3,711,672	3,816,519	3,157,180
Motive power	2,822,619	2,963,092	2,567,155
Maintenance of way	2,012,584	2,183,590	2,062,862
Maintenance of cars	947,000	938,751	783,682
General	346,273	322,754	297,989
Total expenses	9,920 148	10,224,706	8,868,828
Net earnings	3,300,949	3,281,823	3,707,392

MO. PAC. SYSTEM (WITHOUT IRON MTN.)

INCOME ACCOUNT.

	1891.	1890.	1889.
	$	$	$
Receipts—			
Net earnings	3,300,949	3,281,823	3,707,342
Dividends, interest, etc.	634,054	2,223,951	1.961,790
Total net income	3,935,003	5,505,774	5 689,182
Disbursements—			
Interest on bonds	2,776,580	2.506,143	2,458.485
Dividends paid*	3 247,655	1,823,498	1,758.994
Taxes, rentals, etc.		588,187	793,275
Total disbursements	6,024.235	5.0[illegible]9,828	5,010,754
Balance for year	df.2,089,232	sur.495,946	sur.678,428

GENERAL BALANCE DECEMBER 31.

	1891.	1890.	1889.
	$	$	$
Assets—			
Cost of road and equipment	50,639,208	51,078.982	50,339,643
Investments in stocks and bonds	51,766 390	52,023,538	47,262,650
Materials and supplies on hand	775,585	878,730	730.310
Cash	973,678	676,389	1,365,010
Uncollected accounts	5,778,276	4,639,377	2.953,070
Total assets	109,933,137	110,297,016	102,650,692
Liabilities—			
Stock	47,432,850	47,428.300	44,974.850
Funded debt	51,376,000	51,376.000	44,376,000
Interest due and accrued	1,177,042	932,939	731,620
Vouchers for Dec., payable following Jan.	2,774,519	2,510,881	1,904,268
Advances	3,642,528	2,431,466	5,540 470
Income account (surplus)	3,530,198	5,619.430	5.123,483
Total liabilities	109,933,137	110,297,016	102,650,691

* 4 p.c. in 1889 and 1890 and 3 p.c. in 1891.

Share Capital and Funded Debt.

Share Capital $47,432,850
Funded Debt:

Bonds.	*Issued.*	*Due.*	*Amount authorized.* $	*Amount outstanding.* $	*Interest p.c. g=gold.*	*Annual charges.* $	*Interest payable.*
1st mortg. ext.	1868	1938	7,000,000	7,000,000	4 g.	280,000	Feb. & Aug.
2d " "	1871	1938	3,000,000	2,573,000	5	128,650	Jan. & July.
Real est. mort.	1872	1892	800,000	800,000	8	64,000	May & Nov.
1st Carond.Br.	1873	1893	500,000	245,000	6 g.	14,700	Apr. & Oct.
3rd Mo. Pac	1876	1906	4.500,000	3,828,000	7	127,960	May & Nov.
1st Lex. div.	1880	1920	650,000	650,000	5 g.	32,500	Feb. & Aug.
1st consol	1880	1920	30,000 000	14,904,000	6 "	894,240	May & Nov.
Trust	1887	1917	15,000,000	14,376,000	5 "	718 800	Mar. & Sept.
1st collateral	1890	1920	10,000,000	7,000,002	5 "	350,000	Feb. & Aug.
			Total	51,376,000		2,610,850	

The *first mortgage bonds* were extended in 1888, and their interest reduced to 4 p.c.; the *second mortgage bonds* were extended in 1891, and their interest reduced to 5 p.c. These bonds have a sinking fund of $50,000 per annum; both cover the main line from St. Louis to Kansas City with equipment. The *third mortgage* covers the same line. The *consolidated bonds* are secured by other lines. The issues of collateral bonds are secured by first mortgage bonds of subsidiary lines owned by the company.

It is not necessary to refer to any of the auxiliaries of the Missouri Pacific except the Iron Mountain route. This railway derives its name from a mountain, situated 80 miles South of St. Louis, which is not, as commonly supposed, entirely composed of iron, but contains rich veins of peculiarly hard ore which are partly exposed, and is situated in a field which yields enormous quantities of metals. The Southern portion of Missouri contains numerous minerals, notably lead and zinc, the annual yield amounting to some 60,000 tons of the former and 12,500 tons of the latter. The State also contains vast bituminous coalfields, and produces 900,000 tons of coal per annum, of which the Iron Mountain carries a goodly proportion.

The St. Louis and Iron Mountain operated on Dec. 31st, 1891, 1,547 miles, of which 1,204 are owned; since that date the Camden and Alexandria RR. has been added to the system. The funded debt amounts to $40,371,000, nearly one-half of which is part of a 5 p.c. general consolidated mortgage, issued in 1881, and authorised to the amount of $45,000,000, which is partly guaranteed by the Missouri Pacific. The stock ($25,784,000) is almost entirely held by the Missouri Pacific. The road is in defective condition, and sooner or later vast sums will have to be expended upon it.

Below are condensed financial statements, copied (by permission) from the *Chronicle*.

ST. LOUIS, IRON MOUNTAIN AND SOUTHERN RY.

EARNINGS AND EXPENSES.

	1891.	1890.	1889.
	$	$	$
Earnings from—			
Passengers	2,195,321	2,149,724	1,784,070
Freight	8,574,821	7,945,726	6,526,877
Mail, express and miscellaneous	811,788	763,723	653,847
Total earnings	11,581,930	10,859,173	8,964,794
Expenses	7,704,896	6,969,687	5,191,441
Net earnings	3,877,034	3,889,486	3,773,353

INCOME ACCOUNT.

	1891.	1890.	1889.
Receipts—			
Net earnings	3,877,034	3,889,487	3,773,355
Other receipts	20 413	27,356	228,529
Total net income	3,897,447	3,916,843	4,061 884
Disbursements—			
Interest on bonds	2,271,471	2,414,506	2,407,626
Taxes, bridge expenses, etc	1,586,229	798,979	383,144
Dividends		773,294	1,030,248
Total disbursements	3,857,700	3,986,779	3,821,018
Balance for year	sur. 39,747	def. 69,936	sur. 240,866

CHAPTER XLII.

OTHER GOULD ROADS IN THE SOUTHWEST:—(THE TEXAS AND PACIFIC.—THE ST. LOUIS SOUTHWESTERN.—THE INTERNATIONAL AND GREAT NORTHERN.)

As has been stated in a preceding chapter, Mr. Gould and his associates control nearly 9,000 miles of railroad in the Southwest. The Missouri Pacific system is of course by far the most important, but nevertheless the three others play a very important *role* in the development of the young States of Texas and Arkansas. The Texas and Pacific, connecting with El Paso, traverses the entire State from East to West—a distance of over a thousand miles—and embraces 1,499 miles of road. The St. Louis Southwestern goes to Texarkana, Fort Worth and other centres, and finally the International and Great Northern connects with Galveston and with Laredo, where it forms a junction with the Mexican National RR. The three systems are operated in harmony with each other and with the Missouri Pacific.

THE TEXAS AND PACIFIC RR.

This company was organised in 1871 by virtue of charters from the Federal Government and the State of Texas, and it acquired the properties, charters, land grants and other privileges of the Southern Pacific, Memphis, El Paso and Pacific and Southern Transcontinental railroads. These lines were rapidly extended West, and in 1882 the system established connection with the Southern Pacific RR. of

California, which it met at Sierra Blanca, a little East of El Paso. A through route between St. Louis and San Francisco which availed itself of the St. Louis and San Francisco, Texas and Pacific and Southern Pacific railroads was immediately established. A few months prior to the completion of the line to Sierra Blanca the company had amalgamated with the new Orleans and Pacific RR., running from New Orleans to Shreveport, so that New Orleans also obtained direct rail communication with the Pacific Coast. In subsequent years the T. & P. lost much of its importance as a transcontinental route, mainly as a consequence of the absorption of the Galveston, Harrisburg and San Antonio RR. by the Southern Pacific, which thus obtained its own through line to New Orleans.

The following is a summary of the lines composing the Texas and Pacific system, to which no material addition has been made since 1883:—

Eastern State Line of Texas to Sierra Blanca.	1,039	miles
New Orleans to Shreveport.	324	„
Gordon to Coal Mines	22	„
Total owned.	1,385	„
Leases: Vicksburg, Shreveport & Pacific . .	21	„
Operates: Southern Pacific from Sierra Blanca to El Paso	93	„
Total owned, leased and operated	1,499	„

The subjoined table shows that the development of the company's business has made satisfactory progress:—

Table showing Mileage, Passenger and Freight Traffic, and Traffic Revenue of the Texas and Pacific Ry. Co.

Year.	Average mileage operated.	Passenger Traffic.			Freight Traffic		
		Million passengers carried one mile	Rate, — Cents.	Rev-nue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue. — $
1877	415	13·9	4 41	524,198	43·4	3.34	1,449,988
1878	444	15 0	3.84	502,694	51·0	3 26	1,660.645
1879	444	11·7	3 92	456,567	50·7	3.12	1,582,925
1880	444	11·4	3.81	456,065	66·4	3.09	2,053.018
1881	516	18·2	3.75	681,530	102·5	3.36	2,410,083
1882	1,336	31·9	3.59	1,147,292	207·8	1.83	3,806,944
1883	1,487	53·8	2.93	1,575,670	259 0	1.76	4,567.048
1884	1,487	47·9	3.87	1,374.383	245·3	1 65	4,037,484
1885	1,487	26·0	5.82	1,508,147	124 6	3.10	3,868,716
1886	1,487	52·2	2.63	1,374.239	256·8	1.67	4,282.448
1887	1,487	58 9	2.62	1,543,227	287·1	1.46	4,186,782
1888	1,487	58·5	2.66	1,556.785	323·2	1.36	4,380,107
1889	1,497	61·5	2.72	1,675.474	361·9	1.34	4,853,630
1890	1,499	72·5	2.61	1.894.177	398·9	1.26	5.024,969
1891	1,499	71·4	2.70	1,925,564	384·4	1.26	4,851,380

The capitalisation of the company consists of $38,710,000 common stock, earning no dividend, $3,784,000 old 6 p.c. first mortgage bonds of the Eastern division, $25,000,000 new first mortgage bonds issued under the reorganisation of 1888, and an equal amount of second mortgage bonds. Both descriptions bear 5 p.c. interest, but that on the seconds (payable annually) need not be disbursed unless earned, so that these bonds are practically incomes; the 1892 coupon was not paid. Before the reorganisation there were land grant bonds to the amount of $10,300,000, but these were assumed by the Texas Pacific Land Trust, which bought all lands.

Subjoined are statements of earnings, income account and general balance sheet, as given in the *Chronicle*.

EARNINGS AND EXPENSES.

	1891.	1890.	1889.	1888.
Miles operated	1,499	1,499	1,497	1,487
Earnings—	$	$	$	$
Passenger	1,925 564	1,894,177	1,675,474	1,556,735
Freight	4,851,380	5,024,969	4,853 630	4,380,107
Mail, express, etc.	449,518	408,565	388,698	437,544
Total earnings	7,226,462	7,327,711	6 917,802	6,374,386
Operating expenses—				
Maintenance of way	1,199,610	1,379,716	1,241,698	1,019,440
Maintenance of cars	366,477	291,070	283,513	289,633
Motive power	1,661,212	1,606 930	1,513,242	1,735 559
Transportation	2 073,462	2,170,914	1,824,772	1,691,067
Taxes	190,129	188,361	173,116	143,213
General	224 831	223,714	209,717	192,737
Total	5,715,721	5,860,705	5,246 058	5,071 669
Net earnings	1,510,741	1,467,006	1,671,744	1 302,717
P. c. operating expenses to earnings	79 09	79·98	75 83	79·56

INCOME ACCOUNT.

	1891.	1890.	1889.	1888.
Receipts—	$	$	$	$
Net earnings	1,510,741	1,467,006	1,671,744	1,302,717
Other receipts	96,151	151,156	178,909	130,936
Total income	1,606,892	1,618,162	1,850,653	1,433,653
Disbursements—				
Rentals and sundries	82,079	94,978	109,665	73,461
Interest on bonds	1,279,490	1,279,490	1,279,490	916,792
Miscellaneous	—	—	—	260,676
Equipment, car trusts, etc.	212,302	390,383	174 164	—
Total disbursements	1,573,871	1,764,851	1,563,319	1,250 929
Balance	+33,021	−146,689	+287,334	+182,724

GENERAL BALANCE SHEET.

	1891.	1890.	1889.
Assets—	$	$	$
Road and equipment	80,468,807	80,474,267	80,488,638
Car trust account	—	131 000	262,000
N. Orl. Pac. RR. stock	6,712,500	6,712,500	6,712,500
Bonds owned	5,777,831	5,778,011	5,757,747
Gordon coal mine	136,577	136,267	13[illegible],975
Supplies on hand	272,617	229,484	169,448
Cash	94,957	167,544	241,119
Due from agents	963 913	789 788	906,146
Land notes receivable	140,523	149,125	167,093
Miscellaneous accounts	125,991	96,417	82,566
Total assets	94,639,716	94,664,412	94,993,232
Liabilities—			
Capital stock	38,710,900	38,710,900	38,710,900
Bonds and interim scrip	54 253,775	54,262 416	54,278,340
Equipment and other notes	88,542	252,995	387,448
Vouchers and pay rolls	907,807	740,172	706,251
Interest due and accrued	224,984	228,229	224,439
Other accounts	334,064	339,056	398,519
Income account	173,663	140,644	287,335
Total liabilities	94,693,916	94,664,412	94,993,232

THE ST. LOUIS SOUTH-WESTERN RY.

The lines of this system run from Bird's Point, Mo., to Texarkana, Fort Worth, and many other points in Texas and Arkansas, notably to stations of the Texas and Pacific; of this last system the St. Louis and Southwestern may be regarded as supplementary. The present company is a reorganisation of the St. Louis, Arkansas and Texas, which was sold in foreclosure in 1890, after having gone through the same ordeal in 1885. To comply with the laws of Texas the corporation is divided into three parts, named respectively the St. Louis Southwestern Railway Co., the St. Louis Southwestern Railway Co. of Texas, and the Tyler Southeastern Railway Co.; for all practical purposes, however, these three corporations are one. The last named operates the narrow gauge branch from Tyler to Lutkin, the Texas corporation the lines in Texas, and the St. L. & S. W. all other roads. The total mileage is 1,222 miles.

The following figures for the years ending December 30th, 1891, and June, 1892, have been published:—

	1891 $	1891-92 $
Gross earnings	4,514,220	4,636,461
Operating expenses	4,057,694	3,824,294
Net earnings	456,525	812,167
Other revenue	——	125,099
Total revenue	——	937,266
Taxes	——	107,326
Interest on bonds	——	800,000
Rentals	——	10,284
Total charges	——	917,610
Surplus	——	19,692

The capitalisation of the company now consists of $16,509,000 common stock, $20,000,000 preferred. $20,000,000, first mortgage bonds (6 p.c. gold), $8,000,000 ($10,000,000 authorised) 5 p.c. non-cumulative second mortgage incomes, and $577,497 car trusts. These securities are proportionately distributed over the three component corporations and replaced the old securities under the provisions of the reorganisation.

THE INTERNATIONAL AND GREAT NORTHERN RR.

The International Railroad, amalgamated in 1873 with the Houston and Great Northern, was the predecessor of the present corporation, which extended its lines to Austin in 1876. In 1878 the road went into the hands of a receiver, and in 1881 it was purchased by the Missouri, Kansas and Texas, (*q. v.*) which gave two of its own shares in exchange for one of this corporation. When the M. K. T. was leased to the Missouri Pacific the road became part of Gould's Southwestern, and after the dissolution of that system the control of the road reverted to the M. K. T. This company, however, sold half its interest to the Missouri Pacific in 1891, and the other half in May, 1892, so that now the G. N. is entirely controlled by the Missouri Pacific, which owns all its stock. This sale was connected with the default and reorganisation of the Great Northern, and with litigation between the M. K. T. and Mo. Pac., caused by that and other events; the sale of stock, however, settled all disputes. Under the reorganisation[1] the (the Mo. Pac.) shareholders paid an assessment amounting to $1,026,863, in return for which they received the same amount in new third mortgage bonds created for this purpose and also for that of paying the interest due on second mortgage coupons ($1,136,910), a judgment obtained by Jay Gould ($537,388,) and of providing $271,843 for corporate uses. This third mortgage amounts to $3,000,000, and there is a second mortgage of $7,968,500 which bears 4½ p.c. interest until 1st Sept., 1897, and 5 p.c. thereafter, and a first mortgage of $7,954,000 bearing 6 p.c. interest. The stock authorised is $25,000,000 of which $9,755,000 are issued and almost entirely owned by the Missouri Pacific. The third mortgage bears 4 p.c., but until 1897 no interest is payable unless earned. "Certificates of indebtedness" to the amount of $757,618 are in circulation, $126,267 of which must be redeemed annually. Subjoined are traffic statistics, statement of earnings and expenditure, etc.

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[1] The plan provided that the first mortgage should remain as it was, principal and interest, and receive for arrears of interest and interest on the interest to November, 1891, one-half cash and one-half funded interest bonds, secured by first mortgage coupons drawing 5 per cent. interest and payable one-sixth each year. The second mortgage bondholders received third mortgage thirty-year 4 per cent. bonds, with foreclosure penalties and rights after six years, for interest accrued and not paid up to Sept. 1, 1891, inclusive. The first mortgage bondholders received the coupons payable in May, 1892, in cash, and the second mortgage holders one-half of the September coupons and all of the March coupons of 1891 in cash. The second mortgage bonds, 1891, draw interest at 4½ per cent. for six years from Sept. 1, until the first mortgage interest bonds are paid off, and 5 per cent. thereafter, until the end of the bond, provided the interest is paid promptly when due. If a legal default occurs the interest will return immediately to 6 per cent.

The stockholders were to furnish by assessments the money to meet the cash requirements of the proposed reorganisation, estimated at between $13 and $15 a share. The stockholders refusing or not paying the assessments were to be supplemented by other stockholders, who agreed in advance to furnish all money necessary for the reorganisation.

Traffic Statistics relating to the Great Northern and International Railway.

Years ending Dec	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate.* — *Cents*	*Revenue,* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $
1887	775	19·7	3.01	592,831	156·1	1.38	2,162,843
1888	775	24·4	2.61	638,642	156 7	1.33	2,086,759
1889	775	27·0	2.69	728,505	178 3	1.44	2,575,165
1890	775	33 2	2 59	859,257	187·9	1.38	2,501,956
1891	775	32 1	2.77	892,561	183·2	1 39	2,532,079

EARNINGS, ETC.

	1891. $	1890. $
Passenger earnings	892,561	859,257
Freight "	2,532,079	2,501,956
Other	224,002	195,209
Total earnings	3,648,642	3,646,422
Operating expenditure	3,093,550	3,148,245
Net earnings	555,092	498,177
Other income	5,891	17,782
Available revenue	560,983	515,959

CHAPTER XLIII.

THE MISSOURI, KANSAS AND TEXAS RY.

In September, 1865, 23 inhabitants of Coffey County, Kansas, founded the Union Pacific Southern Branch Ry., a corporation which was to build a line extending from Junction City in Kansas to Fort Smith, in the Indian Territory. The capital was to be $1,000,000, of which the counties through which the line was to run furnished $730,000, and in addition to this support the corporation received from the State of Kansas a land grant of 1,300,000 acres. Owing to lack of funds construction progressed very slowly, only 5 miles being completed and work on 35 more commenced by 1869. In that year, however, the company obtained new funds by means of the issue of bonds secured by a lien upon its land grant, and construction proceeded more rapidly, with the result that by December, 1871, the line was finished as far as the border of the Indian Territory, a distance of 179 miles from Junction City. In the same year the company acquired the charters of three other railway companies,[1] and an amalgamation of the four corporations having been effected, the system received its present name. By virtue of the various charters it had powers to lay tracks across the Indian Territory as far as the Texas State Line, and by way of State aid for construction of roads through the unsettled Territory it was to receive land grants to the extent of 3,000,000 acres; but as this 'land of promise' was still occupied by the redskins the grant was made on condition that possession of nearly all lands is to be deferred until the Government 'buys' the Indian Territory from the 'real Americans.' To this the company gladly assented, and after the successful issue of $14,000,000 consolidated first mortgage bonds, work on the road through the Indian Territory was begun. While it was in progress the company resolved not to confine itself to advancing its lines towards the South, but to extend them also in a Northern direction; and hence the St. Louis and Santa Fé, leading to Paola, and the Hannibal and Central Missouri, going to Hannibal, were purchased. In the meantime the directors had ventured to embark upon several enterprises and departures, the honesty of which, to say the least, was doubtful,[1] and as a result the company became weakened to such an extent that it was unable to withstand the crisis of 1873, and in 1874 had to announce its inability to meet the coupons which fell due in those years. A reorganisation was effected, according to which two coupons of the bonds as well as the floating debt were converted into preferred stock, but this proved insufficient to tide the company over its difficulties, and its affairs had to be placed in the hands of a receiver, where they remained until June 30th, 1876. By that time the bondholders had accepted new proposals which stipulated that the preceding arrangement relating to the regulation of the debt should be cancelled, and that coupons when due should be paid partly in cash and partly in income bonds, while until the company was in a position to regularly meet its obligations trustees were to retain control of the property.

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[1] These were the Tebo and Neosho, the Labette and Sedalia and the Neosho Valley and Holden Railroads.

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[1] Among others there had been an issue of $1,756,000 bonds for which the company had received no value whatever. The bonds were given to a construction company composed of members of the Board, who refused either to execute the work in payment for which they received them or to return the bonds. The latter were simply kept for 'damage done,' and as the president of the construction company happened to be president of the M. K. T. no serious bjections were raised.

In November, 1880, the M. K. T. again became its own master, Jay Gould having assumed control of the property in January of that year; and the new president at once commenced to extend its lines, going into Texas as far as the Mexican boundary. In 1881 the shareholders resolved to accept a proposal made by the Iron Mountain RR., likewise controlled by Mr. Gould, to lease the M. K. T. for 99 years, the principal stipulation being that the Iron Mountain could, but was not obliged to, pay the deficiency if the M. K. T. earned less than its fixed charges demanded; if the lessee declined to pay such deficiency the leased company could give notice of expiration of the lease. It seems that from the outset no great faith was placed in this arrangement.

Before its lease to the Missouri Pacific the M. K. & T bought the International and Great Northern, in which Gould had an interest, and needless to say the deal was not to the advantage of M. K. T. shareholders, two shares of the M. K. T. being given in exchange for one of the Great Northern, and its debt assumed. In consequence of this and other 'deals' the capital of the company attained very large dimensions; at the end of 1883 there was a share capital of $46,417,000, and a bonded debt of $41,560,000, almost twice as much as three years before, besides a floating debt. The vast proportions assumed by the capitalisation were partly due to extensions and to the purchase of the International and Great Northern, but chiefly to deliberate inflation by means of all kinds of irregularities. For example, the road was built by a construction company which not only misappropriated bonds but in addition received large blocks of shares. It is an interesting fact that at one time these shares were quoted at 2 p.c. of their face value.

In 1888 the lease to the Iron Mountain terminated, the latter refusing to make up the deficiency of fixed charges, and this caused the M. K. T. once more to land in the hands of a receiver, where it remained until the middle of 1891, after the exemplary management of Mr. H. C. Cross, who was elected president after a reorganisation without foreclosure. The principal feature of this reorganisation was that the old first mortgage was paid off at par, while new bonds bearing a lower interest were issued. The share capital now consists of $13,000,000 preferred and $47,000,000 common stock, and the debt of $60,000,000 4 p.c. gold mortgage bonds. These are divided into $40,000,000 first and $20,000,000 second mortgage bonds, interest on the latter not being compulsory before August 1st, 1895, so that until then they are practically income bonds with foreclosure rights. They received, however, 2 p.c. interest in February, 1892.

The length of the system now operated is 1670·4 miles, of which 1,469 are owned. The following is a summary:—

Lines owned:	Main Line, Hann., Mo., to Denison, Tex.	567·6	miles
"	Parsons to Junction City, Kan. . . .	157·5	"
"	Denison to Mineola, Tex.	152·6	"
"	Fort Worth to Taylor, Tex.	162·1	"
"	Whitesboro to Henrietta, Tex. . . .	87·2	"
"	Dallas to Greenville, Tex.	52·4	"
"	Dallas to Hillsbor'o Jc., Tex. . . .	65·6	"
"	Trinity to Cornesveil, Tex.	66·5	"
"	Other branches	207·7	"
Total owned		1,469·2	"
Leased: Kansas City & Pacific Ry., Paolo to Stevens S. T.		130·0	"
Operated jointly with Texas & Pacific, Fort Worth to Whitesboro		71·2	"
Total operated.		1,670·4	"
Owned but not operated (Holden branch, leased to Mo. Pac).		53·5	"
Total system (average operated in 1891 : 1,717 miles)		1,723·9	"

The first observation one is apt to make when looking at a map of the Missouri, Kansas and Texas, is that it runs from nowhere to nowhere; barring its indirect connections, the most important points it touches are Dallas and Fort Worth. The disadvantages arising from the absence of good terminals have always been clearly realised, and it is therefore pleasant to note that steps have recently been taken which will remove this great impediment. An agreement with the Kansas City Belt Line R.R. has been entered into which will result in the M. K. T. obtaining first class terminal accommodations in Kansas City (on Second-street) and, moreover, a direct line is being built into St. Louis by the Missouri, Kansas and Eastern RR. Co., a corporation controlled by the M. K. T.[1] In addition some gaps between the company's lines in Texas are to be filled, and most of these changes being now all but effected we may for our present purpose regard them as completed. Acting on this assumption we find that the M. K. T. runs from Houston, Fort Worth and Dallas (the three most important towns in Texas) and other points in the 'Lone Star State,' through the Indian Territory to Junction City, Kansas City, St. Louis and Hannibal, connecting at the latter point with the Wabash (for Chicago and Detroit). The system therefore has been constructed to carry the produce of the promising Southwest, and especially of the 'New' Southwest, to St. Louis and Chicago, and although the focus of its traffic appears to lie in Eastern Texas its lines in Kansas and Missouri, though devoid of feeders, do not lack local importance. Above all the interests of the system are wound up with those of the new country, notably the promising Territory and Texas, and as an outlet of that region the route possesses well defined advantages. It can carry produce from its traffic centres in Texas and the Territory both to the South and to the North, and is already one of the principal roads transporting cattle and cereals North, the former to Chicago, the latter to St. Louis. But the fact should not be overlooked that these two towns will not continue to be the outlet of Texas. They are this now, because trade, especially when in its teens, follows established routes; as yet Texan steers are marketable only in the Stock Yards of Chicago and Kansas City, but as the country progresses Texas will seek a more direct route to the East. At present its freights make the detour via St. Louis and Chicago, but when the giant State is more developed it will ask for direct routes to the East, and endeavour to save some 500 miles of travel by shipping its freights via Memphis. It should be borne in mind that this will have serious consequences for the Missouri, Kansas and Texas. Presumably the road will accommodate itself to the new conditions when they come, and build or acquire lines following the new direction of trade; but even this must have a bearing upon its affairs.

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[1] The St. Louis *Globe-Democrat* says with regard to this railway:—"The line will enter St. Louis at the north end on the river front. and it will run through a portion of Central Missouri not yet traversed by any railroad. From St. Charles to Hamburg, sixteen miles, the line of the Cleveland, St. Louis & Kansas City, now in operation, has been acquired; likewise the graded portion of that line from St. Charles east twenty miles and from Hamburg west thirty-six miles. The new line will cross the Missouri River twice, and will run along its banks for some distance. The company has an authorised capital of $4,500,000, and all its bonds, $4,000,000. are owned by the M. K. T., which will guarantee its bonds."

The condition of the property is fair; steel rails (mostly 63lbs.) can now be found on all main lines, but the road is by no means in perfect condition, and requires further betterments, though these are of the minor kind, except as regards rolling stock, where additions are very desirable, there being but little over 6,000 cars, all told.

Subjoined are comparative statements of earnings, etc., for the two years ending 1890 and 1891. Like so many other companies, this corporation complied with the request of the Interstate Commerce Commission, and henceforth terminates its fiscal year on June 30th, in consequence whereof no report for 1891 has been issued. The subjoined table gives all details available at the time of writing.

	1891	1890.	1889
Miles operated (average)	1,672	1,777	1,711
	$	$	$
Total gross earnings	9,775,120	9,004,005	7,922,444
Operating expenses	6,977,411	6,351,862	6,245,006
Net earnings	2,797,709	2,652,143	1,677,438
Percentage of operating expenses to earnings (exclusive of extraordinary)	71 38	70·54	70 22
Rental Kansas City & Pacific RR.	——	99,096	——
Taxes.	——	162,280	187,286

Against the net earnings for 1891 ($2,797,709) there were the following first charges: First mortgage bonds, $1,600,000; Dallas & Waco bonds, $67,000; taxes (say) $175,000; total, $1,842,000. Additional charges for new extensions (say) $400,000; total, $2,242,000. Surplus $555,000. Full interest on second mortgage bonds requires

Below are tables showing the company's funded debt and giving details of traffic for a series of years.

$800,000.

Table showing Mileage, Passenger and Freight Movement, Rates, etc., on the Missouri, Kansas and Texas Ry. for a number of years ending 1890.

		Passenger Traffic.			*Freight Traffic.*		
Years.	*Average mileage operated.*	*Million passengers carried one mile.*	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile*	*Rate,* — *Cents.*	*Revenue,* — $
1877	786	24·5	3.63	832 675	108·9	1.99	2,176,275
1878	786	22·6	2.94	706,601	118·2	1.73	2 099 927
1879	786	23·3	3.06	714,750	142·4	1.72	2 455 863
1880	879	24·8	3.38	840,202	188·0	1.65	3,110,461
1881	1,003	32 2	3.28	1,058,054	289 2	1.39	4,050.119
1882	1,386	52·3	2 64	1.380,591	293 4	1.60	4,710,072
1883	1,386	58 9	2.97	1,750,676	419·8	1.34	5,644,959
1884	1,386	57·2	2 95	1,691,597	412·2	1.25	5,166 673
1885	1,386	54·7	2.91	1 592,713	392·3	1.23	4.833,860
1886	1,386	56·7	2.77	1.575,920	486·6	1.12	5,470.742
1887	1,539	59·7	2 76	1.654,270	507·4	1.04	5 292,344
1888	1,612	55·0	2.64	1.456,347	411·4	1.09	4,408,225
1889	1,711	56·2	2.81	1,581,567	557·4	1 04	5,792 711
1890	1,777	68 3	2 78	1,904,030	586·6	1.11	6,564,456
1891	1,717	69·2	2.80	1,987,777	615·9	1.18	7,285,045

* Common stock	$47,000,000
* Preferred „	13,000,000

Funded Debt, Dec. 31st, 1891.

Bonds.	*Issued.*	*Due.*	*Amount outstand.* $	*Rate of interest.*	*Coupons due*	*Annual interest* $
Tebo and Neosho 1st gold	1870	Now	187,000	7	June & Dec	—
* 1st mortg., gold	1890	1990	39,774,000	4	„ „	1,590,960
* 2nd „ „	1890	1990	20,000,000	4	„ „	—
Boonville Bridge 1st m. gold	1873	1906	696,000	7	May & Nov	guarant.
Dallas & Waco RR. 1st m. gold	1890	1940	1,340,000	5	„ „	„
Sherman Den., & D. RR. 1st m. gold	1891	1921	200,000	5	„ „	„

* = Quoted in London.

The Tebo & Neosho bonds are being replaced by first mortgage bonds, of which the total authorised issue is $40,000,000.

Interest on the second mortg. bonds is not obligatory, but will become so in August, 1895. The coupon due February, 1892, was, however, paid. Boonville Bridge bonds and Dallas & Waco bonds are guaranteed as to principal and interest. Interest on $2,500,000 Kansas City and Pacific 4 p.c. bonds is also guaranteed, but not principal.

PART VIII.

THE PACIFIC GROUP.

CHAPTER XLIV.

THE RAILWAYS OF THE PACIFIC STATES.

The present part deals with the railways of the Pacific States, a group of commonwealths to be found West of the two Dakotas, Nebraska, Kansas and Texas, and therefore including Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Oregon, Washington and California. This country covers nearly one-third of the area of the United States, but being for various reasons only partially settled—not more than one-seventeenth of the population of the entire Union dwells in this vast territory—its wealth represents but a fraction of what it would were the region as densely populated as others; and even railroads are not nearly as numerous as in other sections, although the enormous distances call for main lines the length of which has no parallel in any other part of the globe.

The characteristics of the Pacific States are manifold. The climatic conditions are widely varied because of the great distance separating the northern and southern borders, and additional contrasts are caused by the diversified nature and elevation of the soil in different parts of the region. The Eastern boundary is practically formed by the Rocky Mountains, which are the Western limit of the Mississippi Valley, just as the Alleghany Mountains are its Eastern. West of this 'Continental Divide,' which stretches from North to South through Montana, Wyoming, Colorado, and New Mexico, there is a barren waste, hundreds of miles wide; it traverses the United States from the Canadian boundary to the Rio Grande del Norte, is almost entirely devoid of population and offers no prospects of ever becoming settled throughout its entire extent. This desert again is bordered in the West by the Sierra Nevada and the Cascade Mountains, and between these mountains, which run parallel with the Pacific coast, and the shores of the ocean itself there is a stretch of land some 100 miles in width and over 1,000 in length which ranks among the most beautiful and fertile regions not only of the United States, but of the entire world. In their higher latitudes the Pacific States have a dry and bracing climate; in the South the temperature ranges between that of a spring warmth in winter and tropical heat in summer. In the sandy waste and the Rockies the climate as a rule is dry and bracing, but the mean temperature naturally varies with latitude and altitude.

Subjoined are tables showing area, population, wealth, etc., of the eleven States:—

Table showing Area, Population and Assessed Valuation of eleven Pacific States. (Census of 1890).

	Area, sq. miles	*Population.*	*Assessed valuation, million $*
Wyoming	97,900	61,000	31·0
Colorado	103,900	412,000	168·8
New Mexico	122,600	154,000	43·1
Arizona	113,000	60,000	26·3
Utah	85,000	208,000	46·4
Montana	146,100	132,000	69·6
Idaho	84,800	84,000	25·7
Washington	69,200	349,000	124·3
Oregon	96,000	313,000	114·0
California	158,400	1,208,000	1282·2
Nevada	110,700	46,000	24·6
Totals	1,187,600	3,027,000	1,957·5

Table showing Relative Importance of eleven Pacific States as compared with that of the entire Union. (Census of 1890).

	Pacific States.	*United States.*
Area (sq. miles)	1,187,600	3,602,000
Population	3,702,000	62,626,000
Assessed valuation	$1,957,000	$24,249,600,000
Miles of railroad.	20,897	163,420
Capital of RR. companies	$816,000*	$9,745,000,000
Annual earnings of RR.	$85,500*	$1,068,000,000
Passengers carried one mile	1,402,000*	12,521,000,000
Tons freight carried one mile	3,924,000*	79,193,000,000

*** = Estimated.**

One-third of *Montana* consists of mountain land, the remainder—its eastern part—of rolling prairie which at present contains only a smal proportion of arable lands, being principally occupied with vast ranches which send growing quantities of cattle to the packing houses of Omaha and Chicago; the mountainous part of the State abounds with minerals. Nearly one-third of the gold, silver, copper and lead mined in America comes from Montana. The State has an annual production of $4,500,000 in gold, $19½ millions in silver, $14 millions in copper, and $1 million in lead, and in consequence numerous mining centres have sprung up some of which have acquired an almost world-wide reputation. Helena, containing 15,000 inhabitants, is one of the principal silver towns of the United States; it is situated in a ravine named Last Chance Gulch, out of which nearly $30,000,000 worth of costly minerals have been taken, and mining is still going on in the surrounding neighbourhood at an increasing pace. Near Helena we find Butte City, equally famous as a mining centre, but more noted for its copper smelting works, the annual output of which represents some $23,000,000; the most famous copper mines in the vicinity are the Anaconda mines. The growth of Montana is of recent date. In 1870 there were only twelve miles of railroad, and the population numbered less than 5,000. At present the number of inhabitants is 132,000, and there are 1,500 miles of railway, the Union Pacific, Great Northern and Northern Pacific being in control of all lines of any consequence.

The State of *Wyoming* lies South of Montana, and is also traversed by the Rocky Mountains, which run from the North-west to the South-east. The Eastern district contains many ranches, while the mountainous part produces a great quantity of minerals, the output of which, however, is not nearly so important as that of Montana. Among others the State contains the Yellowstone National Park, which is some 3,500 square miles in extent, contains many marvels of nature, and possesses scenery which places it among the most noted pleasure resorts of the country. The only town of any importance is Cheyenne (pop. 12,000) on the Union Pacific, and the latter is the only railroad in the State if we except a small part of the Fremont, Elkhorn and Missouri Valley RR. of the Ch. & N.W. system.

South of Wyoming lies *Colorado*, with her capital, Denver, the 'Queen City of the Plains,' situated at the Western extremity of the Mississippi Valley and in sight of the Rocky Mountains, though some 30 miles distant therefrom. Denver is the commercial centre of the most prolific mining state of the country, and of increasing importance as a seat of industries which distributes its produce throughout the Pacific States. It is connected with the East by five direct routes, and with the Pacific coast by three. At the same time it is the terminus to which the Colorado Midland and Denver and Rio Grande railroads carry the minerals which they collect in the numerous camps to be found in the Rocky Mountains. The value of the gold and silver mined in Colorado exceeds $300,000,000, one-third of which was turned out during the boom years 1880—1885, and to this enormous total the Leadville district contributed over $100,000,000. The value of the silver produced exceeds that of the gold by 75 per cent., and the mines of the State keep 1,200 stamps going. In addition to the mineral deposits there are some 40,000 square miles of coalfields, the seams of which average about five feet in thickness; there are at present 50 mines employing 4,500 men, and the annual production amounts to about 2,000,000 tons. The major portion of the coal is bituminous, but good anthracite is also found. The Eastern part of the State consists entirely of plains, and is exclusively agricultural; the value of farm products is stated to be $12,000,000 per annum.

New Mexico presents very much the same characteristics as Colorado, although it is far less mountainous. The development of this State has only recently been taken in hand in an energetic manner, but for all that it enjoys the distinction of being the oldest settlement in the United States—Santa Fe, the State capital, having been founded by the Spaniards as early as 1598. The State contains many mines, notably in the North, where 500,000 tons of coal are brought to the surface annually, and produces bullion to the value of $9,000,000 per annum as well as $700,000 worth of copper. The principal towns are: Santa Fé (pop. 8,000) Albuquerque, (pop. 7,500) and Las Vegas, a rising town with a growing iron industry (pop. 6,000).

Arizona, lying to the West of New Mexico, is part of the barren waste which continues throughout *Utah*, *Nevada*, *Idaho*, and part of *Oregon* and *Washington*. The entire country, even in its best season, presents hardly any vegetation, and consists for the greater part of sandy soil with rocks of peculiar formation protruding from the surrounding surface to an altitude of hundreds of feet. It is said that the greater part of this desert, which covers some half a million square miles, could be turned into a fertile country if a proper irrigation could be provided for, and as the mountain ranges which form its Eastern and Western boundaries contain a sufficient amount of water, some people express the hope that this desert will not always remain the desolate region it is now. Here and there the country contains fertile valleys which are rapidly developing into populous districts, the best known of these being the Utah Valley, which contains Salt Lake City, Ogden and other towns. Further North, along the banks of the Snake River, we find other young cities springing up, but the region will never reach anything like the prosperous condition of the Mississippi Valley. It is otherwise with the country situated West of the Sierras and the Cascade Mountains, and with the district adjacent to the Columbia River and its tributaries, which contains the famous farming district of Washington. Around Wallah-Wallah, Spokane Falls, etc., are to be found wheat lands which vie in fertility with the celebrated Red River Valley, situated some 1,000 miles further East, and attract a steady stream of immigrants that causes the population of the district to grow at a marvellous pace. The Pacific North-West, which includes Washington and Oregon, is, however, equally noted because of the great advantages it offers to farmers, although these States hitherto have been known chiefly on account of their immense and magnificent forests, the output from which has raised the country to a timber producer of the first magnitude.

The Pacific North-West finds its commercial outlet in Portland, situated about 100 miles above the mouth of the Columbia River, which is accessible to large vessels as far as this young city. Portland is one of the youngest 'metropoles in embryo' to be found in the United States Although barely twenty years old it has a population of 100,000, and being the most booming town of a booming region the number of its inhabitants and the magnitude of its trade grow almost daily. It has a very active Chamber of Commerce which advertises the town throughout the United States by means of beautiful pamphlets containing a mass of useful information and marvellous figures pertaining to the growth and prospects of this young and thriving town. Portland, however, has several rivals, some of which, like Astoria, are extinct by this time, while others, such as Seattle and Tacoma, enter into that curious competition which can be observed so frequently among American cities, and spare no efforts to direct the trade of Portland to themselves and to make their city great at the expense of rival towns; each city strives to become the commercial capital of what is undoubtedly one of the most promising countries of the world, and this curious battle for supremacy, though decided in favour of Portland, causes amazing improvements everywhere, although it also brings over-speculation and sometimes ruin. The Pacific North-West, by the way, contains some of the finest mountain scenery to be found on the North American continent, and Mount Tacoma, Mount Hood, etc., offer sights second to but few in America.

South of Oregon lies the great State of *California*, which in size is second only to Texas, and covers an area not far short of the eleven Eastern States dealt with in Chap. XIII. As is well known, California owes its rapid development to the gold craze which broke out in 1848; the mining population of those adventurous days, composed of members of all races and nations, laid the foundation of that steady progress and marvellous prosperity which has rendered this commonwealth worthy of the soubriquet of the 'Golden State.' The production of minerals is still continued on a vast scale, but in addition the brilliant climatic advantages have been turned to good account, and the State is not only a great producer of fruits which are sent to all parts of the world, but agriculture flourishes to such an extent that Californian wheat, Californian wool, and dozens of other products have become well known in the world's markets. In San Francisco California possesses a city which in beauty and comparative wealth hardly finds a parallel among her American sisters, and which owing to her advantageous situation on the Golden Gate will undoubtedly develop into the New York of the Pacific coast.

In the Southernmost portion of the State the fruit belt has produced another rising town, Los Angeles, which is just recovering from the severe reaction following a boom that reached its height a few years ago. Practically the same can be said of all towns along the Pacific coast, from Seattle in the North to San Diego in the South. Devotion to booming is a general characteristic of the Westerner, and although he knows that depression and even disaster are sure to follow inflated conditions he is always ready to avail himself of an opportunity to boom any given district, town, or business 'for all it is worth.' The feverish excitement occasioned by these booms surpasses European comprehension; there have been times in Portland, Seattle and Tacoma when real estate reached prices rarely quoted even in the world's greatest capitals. Yet it is evident that a country which, like Oregon and Washington, contains a population of but 650,000, cannot maintain three cities like Portland, Seattle and Tacoma, which all strive to become large and important towns. For the moment the inflated condition may have the appearance of genuine growth, but the delusion never lasts long, and there soon follows that reaction which, when once entered upon, causes a depression as violent and extraordinary as the boom that preceded it. The greater part of the United States has at one time or another been subject to these strange outbursts of exaggerated business activity. As a rule their virulence gradually becomes less pronounced in the same degree as a district matures, and when business has once established itself on a sound basis they are no longer witnessed. In the East, for example, booms in the Western sense are never heard of now-a-days. In the Central States they can still occasionally be found in a modified form, but there too the tendency to promote them gradually vanishes under the influence of settled conditions. In the West, however, where development is still in its earliest stages while business conditions have not yet found a stable basis, booms are of very frequent occurrence, despite the certainty that a reaction will ensue which will not only counterbalance all benefits derived from the artificial inflation, but may even interfere seriously with healthy development. The severe fluctuations to which American business is subject find their origin chiefly in the frequent booms and their reactions.

Nobody will deny that the Pacific States as a whole offer the greatest prospects. Excepting the desert between the two mountain ranges the country has undoubtedly entered upon an era of development which within a few years will enhance its importance to an extent not even remotely anticipated in Europe, and perhaps not fully realised in the Eastern part of the United States itself. The mountain States with their mineral wealth, salubrious climate, and fertile districts will grow into vigourous commonwealths which in course of time cannot fail to reach the same commercial, industrial and agricultural importance as Pennsylvania and New York; and the same holds good of the Pacific slope, where there are fewer minerals but vaster agricultural resources. The latter can be easily thrown upon the world's markets at a cost considerably below that at which the produce of inland regions like Kansas and Nebraska can be transported to the seaboard. The Pacific ocean gives cheap communication with Europe, although the necessity of doubling Cape Horn renders the distance much greater than it would be if the produce could avail itself of the transcontinental railways going direct across to the ports of the Atlantic. But, as will be seen in a succeeding chapter, the cost of railway transportation is so high in these States that railroads are not in a position to compete for this traffic with the vessels that cover some 14,000 miles to reach New York; and the fruit of Southern California, although it does not require such a low tariff as cereals, cannot be sold in the Eastern markets unless sent there by water. To such an extent do railway rates enhance the cost that it is impossible for Californian grapes to compete in Chicago with those brought all the way from Spain.

The enormous distances, however, by no means prevented

American enterprise from embarking upon those vast undertakings known as the Pacific roads. The first of these, the Union and Central Pacific, were built chiefly for military purposes, and probably their construction would have been deferred for many years yet to come had not President Lincoln used his personal influence, and in addition pledged the most effective financial support of the Government, in order to complete it. Connecting in Omaha with the Chicago and Northwestern, the Union Pacific runs in an almost straight line to Ogden, where it meets the Central Pacific for San Francisco, and, as Mr. Alldace F. Walker has pointed out in a recent number of a transatlantic review, in which he described the opening of the first Pacific road, the completion of the iron link between the Atlantic and the Pacific was an event well deserving of the national rejoicing it gave rise to. The Union Pacific, however, did not enjoy its monopoly for many years. The Northern Pacific and Southern Pacific soon began to compete with it, their construction being stimulated partly by Government advances and partly by land grants amounting to entire empires. Not less than 200,000,000 acres of land were given at one time or another to railroads West of the Mississippi river, and the greater portion of this vast tract became the property of the Pacific roads. Gradually five distinct and different transcontinental routes came into existence. The Union Pacific completes a through connection between Omaha, Denver and Portland, and connects with San Francisco by the Central Pacific; the Atchison directly joins Los Angeles with Denver, Chicago and St. Louis, and the Southern Pacific leads from New Orleans to the Golden Gate; the Northern Pacific connects Chicago and St. Paul with Puget Sound. The Great Northern, starting from St. Paul, is now rapidly extending its lines to the same goal, and in addition to these five routes the Canadian Pacific, which directly links the Atlantic to the Pacific, constitutes a connection with the Pacific Coast which, owing to the protection afforded to it by the Canadian Government, effectively competes for traffic between East and West. The distance between these lines sometimes exceeds 1,500 miles, one running in the extreme North of the country, the other in the extreme South; yet so immense is the size of the region that it matters very little to a traveller who has to proceed from New York to San Francisco whether he goes by way of New Orleans or by way of Canada; and between Chicago and San Francisco the choice lies between half a dozen different roads.

All railroads in this section are through routes, the only exception being the Denver and Rio Grande and its connection, the Denver and Rio Grande Western. Most roads have built branches at various points to stimulate local traffic; for example the mining towns of Montana have attracted the Great Northern, Northern Pacific and Union Pacific. In the Pacific Northwest, again, the Union Pacific and Northern Pacific have numerous branches extending to Wallah-Wallah, Spokane, etc., and both the Puget Sound and the Columbia River districts are well provided with local lines; yet the Denver and Rio Grande is the only road the traffic of which can be called primarily local. This railway has been built at great cost through the Rocky Mountains, the canons and valleys of which it follows. No other railroad in the world except, perhaps, the Central Pacific, offered such formidable obstacles to the engineer, but the enterprise which produced this unique mountain line, partly consisting of narrow gauge tracks, was not to be set at bay by the canons, peaks and passes of what is undoubtedly one of the most striking ranges of mountains in the world, well deserving the name of "the Crest of the Continent."

CHAPTER XLV.

THE UNION PACIFIC.

The resolve of the United States Government to grant the Pacific railroads that potent support to which we drew attention at the close of the preceding chapter was an outcome of the peculiar circumstances that prevailed in the railway world about 1860. At that period those who devoted themselves to the construction of new arteries of trade had between Chicago and the Missouri River an extensive field offering vast scope for judicious enterprise, and there was no necessity to embark upon more venturesome undertakings such as lines West of the Missouri would probably be. This circumstance alone would have been sufficient to deter people from building roads to and beyond the Rockies, but there were additional reasons which would have delayed the construction of the first Pacific road for many years. In the first place there was next to no population West of the Missouri River, nor was there any prospect of an early settlement, for the great distance from the country's markets would severely handicap those regions, while in addition better lands could be had for the mere asking in closer proximity to the seaboard. In the second place roads to the Pacific coast had to traverse a vast stretch of country which held out no promise of ever supplying a remunerative traffic. Thirdly, the necessity of traversing the Rocky Mountains and the Sierras involved a large expenditure to which earnings would not be commensurate. It is true that direct communication with California, even at that time a prosperous commonwealth, would have been appreciated by the commercial community and the travelling public; in addition, railways from the Atlantic to the Pacific coast might reasonably expect to become part of a fast through route between Europe and the Eastern shore of Asia, but the great cost involved in building a line across a thousand miles of desert, the comparative smallness of prospective traffic with the Pacific coast, and other considerations to which we have just alluded, were sufficient to place a check upon the enterprise even of those daring spirits who first conceived the idea of a transcontinental railroad.

The Government, on the other hand, had weighty reasons for favouring the construction of a similar highway of trade and travel. The war had accentuated the disadvantages arising from the impossibility of moving troops rapidly to the Far West, but it was not only military considerations which led the Government to wish for a less tedious means of intercourse: the requirements of peace exerted an even more powerful influence than those of war. By 1860 California had grown into a State of no mean importance. The gold fever had subsided, and the population was reaching a state of conversion from a mining to a commercial and agricultural community. The climatic advantages of the State began to assert themselves, and the growing commercial and industrial activity called for frequent communication with the East. In those days mails and passengers were carried by stage coaches across the Sierras, the American desert, and the Rocky Mountains. The necessity of conveying mails and transporting troops involved the Government in an expense exceeding $7,000,000 per annum, and in addition the Indians as well as the outlaws who dwelt in the Far West between the prairie and the coast range endangered the safety of persons and property. The strategical and commercial disadvantages of the lack of railroad communication with the Westernmost parts of the Union, therefore, were forcibly impressed upon the Government of President Lincoln, who was as anxious to promote the military and political interests as to provide for the commercial needs of the country. This being so, he took an opportunity which offered itself in 1861, when he met General G. M. Dodge at Omaha. This gallant gentleman was well acquainted with the Far Western country, and his thorough knowledge of the West, his judgment, and his shrewdness, made such a favourable impression upon the 'martyr President' that the latter commissioned him to enquire into the feasibility of constructing a railroad to the Pacific Coast; and General Dodge's report being of a reassuring character, steps were at once taken to inaugurate the scheme, which by the beginning of 1862 had ripened so far that the matter could be laid before Congress. On July 1st of the same year the representative body of the United States passed a bill granting the right of way across all public lands to the Union Pacific, Central Pacific, and Western Pacific railroads, and giving the most efficient State assistance to the companies that were to build these roads. They received a land grant of 12,600 acres for every mile of road completed, and Government advances, to be paid in United States bonds, amounting to $16,000, $32,000 and $48,000 per mile, the amounts varying because the cost of construction was of course higher in the mountains and the desert than in the prairie. The railroad companies undertook to repay the advances of the Government within 30 years, and the loans from the Government were secured by a first lien upon the property. Subsequently the Government gave still further assistance, for when the Central and Union Pacific required more funds than those given by Congress the latter passed an Act authorising the issue of bonds which would enjoy precedence over the claim of the Government, so that the lien of the latter was converted into a second mortgage. It was conditional that through communication should be completed by July, 1876, but construction was pushed forward so energetically that the line was opened on May 10th, 1869 — a red-letter day in the history of the United States, where the event gave rise to national rejoicings.

At the time of its completion the Union Pacific had a length of 1,042 miles, and ran from Omaha to Ogden, where it connected with the Central Pacific for San Francisco. In 1880 it absorbed the Kansas Pacific Railway, connecting Kansas City with Denver, and the Denver Pacific, which went from Denver to Cheyenne, on the main line; and these two roads have since remained prominent parts of the Union Pacific system proper. A number of other lines, notably in Kansas, Nebraska, and the Colorado mining region, have been added in course of time, though most of these additions are merely local branches; the acquisition of the Oregon Short Line, Utah Northern, and the roads of the Oregon Railway and Navigation Company, however, gave the U. P. direct access to the Pacific coast and to all important points in the Pacific Northwest and the Montana mining region. In consequence the system now embraces 8,148 miles, 7,627 of which are directly operated, and connects Kansas City, Leavenworth, Atchison, St. Joseph, Omaha and Sioux City with Denver, Cheyenne, Ogden, and Portland. There are also numerous branches in the Washington wheat district, Utah, the Montana and Rocky Mountain mining regions, and the Nebraska corn belt; while another line known as the Union Pacific, Denver and Gulf Railway forms the only direct communication between Denver and Fort Worth in Texas.

The Union Pacific system is composed of the roads of the Union Pacific Railway Co. (1,821·86 miles) and auxiliary lines (6,326·12 miles). The system, having a total length of 8,147·98 miles, comprises the following roads:—

Union Pacific Railway		1,821·86 miles.
Carbon Cut-Off Railway		19·17 „
Denver & Boulder Valley Railroad		26·97 „
Denver, Leadville & Gunnison Railway		324·72 „
Echo & Park City Railway		30·10 „
Junction City & Fort Kearney Railway		88·00 „
Kansas Central Railroad		165·49 „
Laramie, North Park & Pacific Railroad		13·36 „
Omaha & Republican Valley Railway		482·05 „
Oregon Short Line & Utah Northern Railway		1,424·84 „
Oregon Railway & Navigation Rail Lines		1,059·33 „
St. Joseph & Grand Island Railroad		251·06 „
Kansas City & Omaha Railroad		193·68 „
Salina & Southwestern Railway		35·47 „
Solomon Railroad		57·04 „
Union Pacific, Denver & Gulf Railway		984·45 „
Fort Worth & Denver City Railway		469·15 „
Union Pacific, Lincoln & Colorado Railway		225·35 „
		7,672·09 „
Central Branch Union Pacific Railroad, including its Leased Lines (*Leased to Mo. Pac.*)		381·19 „
Montana Union Railway	72·22 miles.	
Manhattan, Alma & Burling. Ry.	56·62 „	
Leavenw., Topeka & Southw. Ry.	46·57 „	
The Union Pac. one-half Int. in	175·41 „ =	87·70 „
		475·89 „
Total		8,147·98 „

Two matters in especial have exerted a most powerful influence upon the affairs of the Union Pacific: the policy of extension and the debt to the Government.

The latter originated in advances to the amount of $33,539,512, made by the Government in its own bonds in order to provide the capital which, under the peculiar conditions of the sixties, private enterprise could never have been expected to supply; this sum has been augmented since by the interest at 6 per cent., and diminished by the sinking fund created under the Thurman Act.

This last enactment, passed in May, 1878, was the result of several differences that had arisen between the company and the Government owing to conflicting interpretations of the conditions upon which Congress had granted the State subsidy. At first it had been stipulated that instead of the company paying the annual interest as it fell due, the Government should receive 5 per cent. of net earnings in addition to which it was to retain one-half of the sums due to the railway for the transportation of mails and troops. The Government understood net earnings to be traffic receipts less operating expenditure, but the company said net earnings meant that revenue which remained after first charges had been met, and, moreover, whereas the Federal authorities claimed 5 per cent. of the net earnings of all lines, the management said that such percentage was to be paid only of the earnings of the main lines. Owing to these and other differences which found their parellel in the case of the Central Pacific (*q. v.*) the Thurman Act was passed. This enactment, the lawfulness of which was denied by the company but upheld by the U. S. Supreme Court, stipulated that the company should pay to the U. S. Treasury, on behalf of the sinking fund: one-half of the transportation charges due to the Government, and in addition $850,000 per annum or such amount as should be required to make the sum paid into the sinking fund equal one-fourth of the net earnings of all subsidised lines. This Act has been in operation ever since it was passed, and under its stipulations $12,247,125 have been accumulated, which are absolutely inaccessible to the company except in case it should be unable to meet the annual interest requirements of those bonds which enjoy precedence over the Government's claim; the latter, as we have seen above, is classed as a second mortgage. The sinking fund, however, proved inadequate to prevent a considerable amount of 'interest due to the Government' from accumulating, and hence the indebtedness to the U. S. Treasury increases constantly. Besides principal there was due, on December 31st, 1891, for interest less sinking fund, $17,405,683, which brings the total debt to the Government to $50,945,000, due within the next years. It is obvious that the company is in no position to redeem this vast obligation, and in consequence it has opened negotiations with the Treasury that have caused the matter to be placed in the hands of a Committee of Congress which has it under discussion now. The Government's claims are so well established and so just that nobody has ever suggested that the nation should waive their rights; and as the Government has several grievances against Pacific roads in general and against the Union Pacific in particular[1] it has no inducement to be very liberal or lenient. Nevertheless there is a disposition to treat the companies as well as circumstances permit, and nobody need fear that the Government will be too severe with them. It will no doubt extend the period at which the debt falls due, and may even reduce the rate of interest, although it would be unreasonable and unwise to expect the Treasury to meet all the wishes of the management of the company. The *pros* and *cons.* of this question are so fully discussed in official documents that the author feels he can adopt no better course than insert here, first, the arguments advanced by the late Mr. Sidney Dillon, the road's president, before the Senate Committee on Pacific roads (17th January, 1891) and, second, the reports for 1890 and 1891 which the five Government directors filed with the Secretary of the Interior in 1891 and 1892.

Arguments advanced by the late Mr. Sidney Dillon, president, when he met the Senate Committee on Pacific roads. 17th January, 1891.

"..... This debt must be paid out of the net earnings of the road, and these earnings must be extracted from the agricultural, commercial, and mining population tributary to it. There is no other source from which the money can be obtained. The smaller the annual requirement of the company is, the greater the company's ability to render cheap service to the people along the line of its road and to extend railway facilities to new and tributary regions. I cannot tell, and no living man can tell, what the earning capacity of the Union Pacific will be for the next 50 or even 10 years, and we feel that the company ought not to enter into a solemn contract with the Government to pay more than it is reasonably certain it will be possible for it, under all conditions, to pay. I know to-day the extent of the competition to which the Union Pacific Company is subjected. I know within the last year or two this competition has been greatly increased by the opening of new and rival lines. It is certain that the competition, as it exists to-day, will never be diminished. It is to be feared that it will increase. What development in the way of new and rival lines to the Union Pacific will be made within the next 50 years no man can foresee. Against such rival lines the Union Pacific is in a measure handicapped, since it has to provide for a debt of construction incurred when the cost of labour and the cost of materials was very much greater than it is to-day. In fact, I know that the iron which went into the Union Pacific and which the debt to the Government partially represents, cost over 150 dols. a ton, and all other materials and labour in the same proportion; and one great trouble with the Union Pacific to-day is that it has to compete with rival lines built on a much lower capitalisation, some of them having been bankrupt companies, and reorganised on a lower basis. Such reorganisation was necessary, because they were not able to earn their fixed charges, and their interest debt had to be scaled down to an amount very small in comparison with the fixed and governmental charges of the Union Pacific. These competing lines have in some instances been built or acquired at a cost of only 15,000 dols. or 20,000 dols. a mile. The construction in the near future of the Nicaragua Canal, which is now before Congress, is quite probable, and with the opening of that waterway there would come competition which would materially affect the earning capacity of the Union Pacific on transcontinental business, making it the part of wisdom for the Union Pacific to still further extend and develop its system in the regions naturally tributary to it. Among other recent changes which have affected the earning capacity of the Union Pacific it may be mentioned that during the last summer the Atchison system purchased the Colorado Midland, and, by uniting its system with that of the Colorado Midland and through a connection with the Rio Grande Western, opened a rival route to the Union Pacific from the East to the Pacific Ocean. This did not exist when your committee last met.

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[1] But for the malpractices perpetrated upon the Pacific roads by their promoters and earlier directors (see p. 120) fixed charges would be much smaller now and consequently the roads would have been in a position to meet their obligations towards the Government.

"Also since your committee considered the matter the Denver and Rio Grande has become a wide-gauge road throughout its whole length from Pueblo to its connection with the Rio Grande Western. The Atchison united with the Midland road to build and to extend that road to the west line of Colorado, there connecting with the Rio Grande Western, which has now become a wide-gauge route to Salt Lake, Ogden, and important Utah points. These two great standard rival routes have been developed since the matter was before considered not only directly affecting the Union Pacific by the business they do themselves but enabling the Burlington, the Rock Island, and other roads to turn over business to them instead of to the Union Pacific, making strong competition which did not previously exist. A map will show this at a glance.

"At the time this matter was considered by the committee, the Rock Island, the Chicago, Burlington and Quincy, and the Northwestern were local competitors of the Union Pacific, but since that time, by extensions and developments of their systems, and by the connection with the Atchison and Denver and Rio Grande roads, have become much more important and serious rivals than they were at the date when this subject was considered by your committee.

"The inevitable effect of competition is to diminish earnings. The Union Pacific cannot control rates, it must accept such rates as its competitors are willing to accept or lose the business. The public is clamorous at all times for low and lower rates, and the result of these forces working together is exhibited in the fact that on the Union Pacific rates have diminished steadily on freight from 1.8c. per ton per mile in 1884, when this funding project originated, to 1.34c. in 1889; and on passengers from 3.26c. per mile to 2.35c. during the same period. The rates in 1890 still further declined; so much so that, if they had remained in 1890 the same as in the very year before, the net earnings of the Union Pacific would have been more than $1,500,000 greater than they actually were.

"These statements are made, and many more might be added, to suggest the possible and probable effect of future developments and rivalries, and the importance of keeping these facts in mind in making an adjustment; and it is submitted that in such adjustment the Government should not make such a demand on the company that the company cannot safely assume to perform. The company feels that the Government, being made secure, should be satisfied with a rate of interest not greater than it can borrow money for from others. In view of what this road has done in the way of developing the resources of the country, and in view of what the people are demanding in the way of increased facilities and lower rates, and what the construction of this road has saved the Government annually in the way of transportation, it is submitted that the Government ought to approve of the plan of adjustment now suggested on behalf of the company.

"The period of liquidation is comparatively unimportant, and is indeed insignificant, when considered in connection with the importance of having the property in condition to fulfil its obligations to the Government and to the public. Compared with this, whether the Government is paid in 50, 75 or 100 years, is a matter of secondary moment—the more so since the extension is not absolute, but on condition that the company shall each year pay without default the agreed sum to the Government.

"As stated in the beginning, it has at previous stages in the consideration of this matter been assumed that the company could pay 3 per cent. and extinguish the debt in fifty years, but it must be remembered that such time and rate were the extreme limit of burden the company could bear even under the then existing circumstances and conditions; and the question is, Should the Government insist on that extreme limit when the chances are that the ability of the company to meet such requirements will be diminished rather than maintained or increased? There is no necessity for pressing such an extreme demand, because the Government does not need the money. No good purpose can be accomplished by exacting it, and the Government is in as good condition with the debt fully secured and paid within the period of 100 years as if it were paid within a period of 50 years. But whatever opinions may have been entertained as to the ability of the company one, two, three, or four years ago, under the then existing conditions, to pay 3 per cent. and extinguish the principal in 50 years, recent experience, and particularly the experience of the past year, has proved that the company's officers failed to fully anticipate and appreciate the changeable conditions of railway properties, and over-estimated the certain permanent net earning capacity of the company by under-estimating the effects of the competition that has since arisen, and the consequent and constant reduction of rates. I thank the committee for the honour of a hearing. I ask their careful and considerate attention to this subject. We shall at all times hold ourselves in readiness to give the committee any detailed information it may need."

From the annual report for 1890 filed with the Secretary of the Interior at Washington by Messrs. George E. Leighton, Jas. F. Plumer, Jesse Spalding, Rufus B. Bullock and Joseph W. Paddock, the Government directors of the Union Pacific Railway Company.

"Though the operations of the Union Pacific Railway system for the year 1890 resulted in a decrease of the net earnings to the amount of $1,417,262, we have to report that the physical condition of the property has been fairly well maintained, the equipment both of the main line and the auxiliary roads and branches largely increased. For the year 1890, as compared with 1889, the gross earnings of the Union Pacific Railway increased $652,643, while the net earnings decreased $1,011,920. For the same period the gross earnings of all the roads composing the system increased $3,379,648, while the net earnings decreased $1,417,962. For the first six months of 1891 the same state of facts is presented of decrease in net earnings both from the Union Pacific Railway and the system, though in the latter months a tendency to improvement is to be remarked, especially upon the Oregon lines, and there is good reason to anticipate a better result for the year.

"The event of the year to which we feel called upon to direct theattention of the Department has been the financial embarrassment of the company, brought about by conditions impairing the ability of the company to carry its large floating debt. The gross floating debt of the company on December 31, 1889, was $20,161,000, and although at times materially less during the year it reached on December 31, 1890, $21,460,000. Of this amount about $15,000,000 was the result of expenditures and advances in the construction of branch and tributary lines, or the purchase of stock in such lines for the purpose of control, and was fully represented by securities of equivalent or greater value in the treasury of the company. But under the conditions of the money market in the autumn of 1890 the company was unable to dispose of them.

"The policy of the Union Pacific Railway Company in acquiring control of tributary lines we have no hesitation in saying is absolutely necessary to the prosperity of the system. It may be doubted if the company could have maintained its solvency except through such a policy. We believe that as a whole it has therefore been wisely, conservatively and honestly carried out.

"In the year 1890 about 120 miles of new road, exclusive of sidings, had been added to the system. All this work was immediately suspended on a first suggestion of financial danger, and has not as yet been resumed. Every effort was made to retrench expenditure in every department, and it was hoped that no extraordinary measures would become necessary to protect its credit. A crisis in the financial affairs of the company was, however, reached in August, 1891. It became impracticable, if not impossible, to carry the large floating debt any longer through the banks and trust companies, and it became necessary to fund it, at least for a period sufficient to enable the company to market its securities, most of which were already hypothecated in the temporary loans. Measures were adopted at the meeting held on August 16, providing for the issue of notes to the amount of $24,000,000, running for three years, at 6 per cent. which have been offered to the creditors at 92½ per cent. and have, at this date, we are informed, been taken or agreed to be taken by creditors and others to the amount of about two thirds, thus relieving the finances of the company from any present embarrassment. To secure these notes the company has pledged every available asset. The deposit of securities has been made with Drexel, Morgan & Co., as trustees, and the sale or disposition of them and the payment of the notes are to be under the control and direction of a committee of five, to be composed of three creditors and two directors of the company, with power to add to their number. A resolution was unanimously passed at the meeting requesting the committee to add one Government director to their number, but we are not advised that any such action has been taken. Both the letter and spirit of Section 13 of the Act of July, 1862, would seem to require such representation upon the committee.

"The Government directors have, after careful consideration, reluctantly concurred in the course of action adopted as presenting apparently the only means of relieving the company, but we cannot but regret the temporary character of the provision for relief, and the additional fact that it has become necessary to hypothecate not only the bonds but the stocks representing ownership or control in the extensive coal properties and the companies of the entire tributary system. In a degree it hazards the integrity of the system.

"No one can come into a close knowledge of the Union Pacific Railway system without being impressed with the necessity for relief from the exactions and limitations rendered necessary by the various statutes having in view the security of the Government lien. But the complex and involved methods arising from branch-guaranteed collateral trust and indorsed bonds has cost the company a vast amount of money, fairly stated in millions, which might have been in a large degree saved if it had been permitted to issue its own direct obligation secured by direct mortgage upon its own propery. We cannot perceive that the Government is in any way benefited by these limitations. The Union Pacific no longer occupies an exceptional position. Except as appertaining to the direct security of the lien and its payment, legislation should not harrass or burden it. A sound public policy should, in our judgment, prompt the Government as a creditor to make such provision as to time and date of payment of the principal and the rate of interest to be paid, as may be within the ability of the company to meet; but having done this the Union Pacific should be as free and untrammeled as other lines. We do not believe that the position of the Government as a creditor will in any degree be improved by delays in such adjustment; whilst, on the other hand, the ability of the company to discharge its obligations by such legislation as will permit of a consolidation and unification of the system, and an extension of the security of the Government, either directly or indirectly, to the whole property.

"The nearly concurrent maturity in the near future of the underlying first mortgage bonds, of the debt to the Government, and of the collateral notes recently issued, aggregating over $100,000,000, is a fact not to be overlooked or disregarded. It presents possible conditions which a wise foresight should amply provide for, and in abundant season."

Referring to their above remarks, the report for 1892, which has been submitted to the Secretary of the Treasury in September 1821 says that the scheme adopted for funding the floating debt into three-year collateral notes was entirely successful in its immediate purpose of relieving the company for the time. For the present the company has no floating debt, and is amply able to meet its interest and sinking fund charges from its earnings. But the early maturity of the collateral notes, the debt due the United States and the first mortgage bonds present a grave situation to be provided for in the near future. As to the collateral note trust, the board is informed that of the amount of notes authorized there was issued $18,530,000, and that of the assets pledged with the trustees, sales have been made in the past year to the amount of $349,000, wich has been applied *pro tanto* to the purchase of notes, leaving a balance now outstanding of $18,181,000, having less than two years to run. That such a small amount only should have been retired in a year suggests to the board that there must be some strong reason why the committee have not accomplished more fully the purposes in view in the creation of the trust, which by its terms contemplated a liquidation of the notes as rapidly as may be and within the period." The report further says:

"We think the fact may as well be stated, for it is a fact apparent to the slightest observation of the course of this trust, as well as of the negotiations of the assets, however valuable they may be, can be successfully conducted in the face of the uncertaintis of the near future growing out of the relations of the company to the Government. However ample the intrinsic value of the securities pledged, and they are far more than ample, investors are not disposed to purchase them in the face of possible complications of a serious nature which may paralyze all efforts, however able, to administer the property."

"We therefore feel compelled to again urge that the present state of uncertainty should be brought to an end. It is disastrous to the security, to the company and to the general public. It checks all progress and development, so essential to the States throug which it passes, and to its own healthy growth, and impairs the credit of the company by keeping before security holders the possi bility of a breaking up of the system. Unless some adjustment is made we can see no probability of the sale of the securities now pledged except at prices far below their intrinsic value."

"Upon a fair and just arrangement for the extension of the debt due the Government we see no reason why the amount cannot be amply secured and finally paid in full, but the chances for securing this result are not improved through non-action or by allowing the credit of the company to be hopelessly broken or even seriously impaired."

"On the other hand, the sooner an agreement is reached the more certainly will the Government be secured and the ability of the company to pay be firmly established."

The Government directors also refer to the financial difficulties which, chiefly arising from a policy of extension, threatened to involve the company in a grave crisis which was warded off with apparent difficulty in the autumn of 1891, when the issue of $24,000,000 in promissory notes, secured by securities in possession of the company, bearing six per cent. interest, and due in 1894, was resolved upon. The report, as quoted above, gives sufficient data relating to this measure to render further reference to its details unnecessary, but it will be well to bear in mind that the issue of these notes merely deferred the crisis, and did not by any means actually avert it. Indeed, the entire financial condition of the Union Pacific is one of more or less anxious suspense. Within the next few years three events will happen the course of which cannot at present be indicated in spite of the great importance that attaches to them. The debt to the Government will fall due very soon, and there is no inkling as to the method of payment the Government will propose or accept. The three years' notes will be payable. and although they are amply secured by bonds of subsidiary companies, they practically constitute a floating debt which must either be paid or funded. In addition several descriptions of bonds will mature and must be either extended or replaced by others. With three events of such magnitude impending it would be futile to enter into speculations with regard to the future. Much will depend upon extraneous conditions, and still more upon the performance of the property itself, and most of all, perhaps upon the attitude of the management which, to aggravate matters, has passed into the hands of Mr. Gould. If the next few years provide a good business, and if, furthermore, nothing occurs which unduly depresses the money markets, the company may be in a position to reorganise its capitalisation, to reduce its annual charges, and to propound a scheme which will provide for payment of the debt to the Government; but the possibility of relief so much depends upon a combination of favourable circumstances that it seems to require some optimism to believe in a speedy establishment of the company's affairs upon a sound basis.

The subjoined tables give details of the affairs of the company. Tables I., II. and III. relate to the U. P. *railway*, IV. and V to the U. P. *system*. Items on these are elucidated by tables A to I inclusive. Tables J, K and L give details of bonds, stock, earnings, etc., of all subsidiary companies; finally, table M shows what items the freight carried by the system is composed of.

Traffic Statistics relating to the Union Pacific Railway.

Year.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate, — Cents.*	*Revenue, — $*	*Million tons carried one mile.*	*Rate, — Cents.*	*Revenue, — $*
1881	1821	158·6	—	5 181,571	783·3	—	17,068,127
1882	1821	157·5	—	5,197,730	732 8	—	15,402,167
1883	1821	148 9	—	4,659,116	746·0	—	14 263,291
1884	1832	142 7	2.90	4,212,597	749·0	1.91	11,660,311
1885	1832	144·8	2.75	3,979,809	850·2	1.49	12,070,749
1886	1832	194·8	2.14	4,160,647	966·2	1.36	12,230,271
1887	1824	200 8	2.30	4,620,113	1107·9	1.72	13,486,495
1888	1824	207·7	2.24	4,650,536	1216 0	1.17	13,740,294
1889	1821	201·7	2.14	4,324,562	1150·3	1.27	13,509,346
1890	1821	204·6	2.06	4,224,496	1246·7	1 14	14,987,376
1891	1822	171·7	2.15	3,687,654	1274·1	1.14	13,921,630

Income Account of the Union Pacific Railway.

INCOME.	1891. $	1890. $
Earnings	19,687,738.48	20,438,208.36
Expenses — For details see table A	11,290,528.18	12,573,820.43
Taxes	550,758.60	589,628.87
	11,841,286.78	13,163,449.30
Surplus earning	7,846,451.70	7,274,759.06
Income from investm. (for details see table I)	1,925,443.38	1,881,445.85
Interest due Sept. 1, 1891, on sinking fund mortgage 8 p.c. bonds, paid by the Trustee thereunder	224,720.00	—
Interest on Kansas Pacific consolidated mortgage bonds, repaid by the Trustees thereunder	377,100.00	381,300.00
Proceeds miscellaneous land sales	14,806.13	24,168.40
Miscellaneous	54,000.00	—
Total income	10,442,521.21	9,561,673.31
CHARGES.		
Interest on bonds (see table B)	4,782,230.29	4,613,097.85
Sinking fund requirements (see table C)	708,332.50	705,458.75
United States requirements	1,278,488.82	1,041,153.43
Discount and interest	642,670.41	668,190.38
Discount on bonds sold, premiums etc.*	977.08	58,248.62
Land expenses and land taxes, Union div.	71,622.68	103,130.39
Profit and loss	159,220.01	119,862.87
Estimated amount due to the St. Joseph & Grand Island Railroad Co. under its traffic contract	260,296.48	185,328.14
Amount due to the Union Pacific, Denver & Gulf Railway Co. under its traffic contract	464,089.24	—
Amount due to the Union Pacific, Lincoln & Colorado Railw. Co. under its traffic contract	116,350.85	119,093.28
Loss in operating the Denver, Leadville & Gunnison Railway	47,852.51	61,416.86
Total charges	8,532,130.87	7,674,981.09
Balance, surplus in excess of fixed charges	1,910,390.34	1,886,692.22

* Excluding the discount on the collateral trust six per cent. notes issued in settlement of the company's floating debt.

The item of income entitled "interest due September 1, 1891, on sinking fund mortgage eight per cent. bonds paid by the Trustee thereunder," $244,720 represents funds paid to the trustee in former years as a contribution to the sinking fund, but not actually required by the trust indenture and therefore available for interest and sinking fund payments.

The item of "Interest on Kansas Pacific Consolidated Mortgage Bonds repaid by the Trustees thereunder," $377,100, represents a portion of the land and trust moneys received by the trustees and, pursuant to a provision in the Indenture, paid to the Union Pacific Company to be applied to the payment of such interest.

TABLE III. *Balance Sheet, December 31.*

	1891. $	1890. $
LIABILITIES.		
Capital stock	60,868,500 00	60,868,500.00
Funded debt (See Table D.)	90,298,635.00	73,968,685.00
United States six per cent. currency bonds	33,539,512.00	33,539,512.00
Interest on United States bonds, balance of, sinking fund deducted (see table E.)	17,306,083.29	17,338,741.62
Floating debt	—	6,874,941.60
Interest accrued not yet due	998,311.68	539,387.55
Income Accounts—		
General income	9,998,698.83	9,473,989 82
Income used for sinking funds	6,896,726.10	6,192,263.92
Land and trust income	25,129,147.69	25,239,165.06
	42,024,572 62	40,905,418.80
Less Deficit of United States requirements and accumulations of the sinking fund as compared with accrued interest on United States bonds, February 1, 1880, to date	5,179,322.28	5,024 800.38
	36,845,250.34	35,880.618.42
	239,938,892 31	229,010,586.19
ASSETS.		
Cost of road and fixtures	155,303,427.51	157,870,122.13
Investments—		
Bonds and stocks of other railroad companies (see table F.)	43,809,152.67	43,177,226.17
Bonds and stocks of steamship, coal and other companies, and county bonds	7,141,144.46	2,904,198.96
Bonds and stocks of railroad and other companies held in the Kansas Pacific consolidated mortgage trust	3,213,001.00	3,213,001.00
Miscellaneous investments	1,300,301.45	1,561,407.38
Advances to auxiliary companies payable in bonds and stock	2,540,520.08	3,45 ,851.30
	58,004,119.66	54,327,784 83
Cash and current assets	11,188,824.25	—
Sinking fund balances	3,173,968.70	2,745,087.14
Fuel, material and stores on hand	1,706,086.28	2,576,045.91
Land contracts, land cash, etc. (table G.)	10,442,485.91	11,401,506.18
	239,938,892 31	229,010,586.19

The item of profit and loss, which represents the sum of $150,220.01, embraces the Union Pacific Company's proportion of the losses arising from the operation of the Leavenworth, Topeka & Southwestern Railway for the years 1880 and 1891, $57,702.75; the estimated cost of replacing certain locomotives belonging to the Denver, Leadville & Gunnison Railway Co., the locomotives to be replaced having been dismantled prior to the year 1891, $54,600, and the Union Pacific Company's proportion of the estimated amount due to the Kansas City & Omaha Railroad Co. under its traffic contract $13,322 50. The other items included under this head are of comparative unimportance.

TABLE IV. *Traffic Statistics relating to the Union Pacific* system.

Year.	*Average mileage operated.*	*Passengers.*			*Freight.*		
		Million passeng. carried one mile.	*Rate,* — *Cents.*	*Revenue,* — $	*Million tons carried one mile*	*Rate,* — *Cents.*	*Revenue,* — $
1887	4,623	282·9	2·57	6,565,789	1490 0	1·42	19,956,467
1888	5,041	286·8	2·44	6,997,707	1682 9	1 30	21,077,346
1889	7,389	355·9	2·41	8,590,325	2057·1	1·41	28,051,717
1890	7,562	399·7	2·34	9,336,575	2330·1	1 38	30,330,900
1891	7,688	342·5	2·48	8,484,227	2414·7	1·34	30,550,555

TABLE V. *Union Pacific System.—Income Account.*

	1891. $	890. $
Income—		
Earnings }	44,006,730.71	44,538,201.64
Expenses { (See table H.)................	28,680,548.61	30,635,927.24
Taxes }	1,580,451.29	1,563,208.28
	30,260,999.90	32,199,135.52
Surplus earnings....................	13,745,730.81	12,339,066.12
Income from investments (see table I)......	837,150.71	606,338.81
Proceeds miscellaneous land sales...........	20,987.38	27,446.73
Interest due Sept. 1, 1891, on sinking fund mortgage 8 p.c. bonds, paid by the trustee thereunder..................	244,720.00	—
Interest on Kansas Pacific consolidated mortgage bonds, repaid by the trustees thereunder	377,100.00	381,300.00
Montana Union Railway Co. rental, one-half.	49,257.08	46,904.03
Miscellaneous..........................	65,108.44	19,304 96
Total income	15,340,054.42	13,420,850 65
Charges—		
Interest on bonds (see table B.).............	10,191,682 24	9,604,496.47
Sinking fund requirements, Union Pac. Ry. Co.	708,332 50	705,456.75
" " " other companies...	379,568 34	359,029.99
United States requirements................	1,293,290.44	1,053,720.11
Dividends on Oregon Railway & Navigation stock afloat..........................	591,951.00	651,820.50
Discount and interest.....................	667,409.31	731,183.84
Northern Pacific Terminal Co. interest......	105,000.00	55,415.07
Discount on bonds sold, premiums, etc......	4,031.83	65,713.62
Land expenses and land taxes, Union division	71,622.68	103,130 39
Profit and loss........................	161,495.18	147,044.73
Loss in operation of the Oregon Railway & Navigation water lines................	80,630.15	70,517.86
Rental of Denver & Rio Grande joint track	—	148,358.18
Total charges.........................	14,275,013 67	13,695,887.51
Balance of income......................	1,065,040.75	(a) 275,036 86

TABLE A. *Union Pacific Railway Company. Earnings and Expenses for the years 1891 and 1890.*

	1891. $	1890. $
Earnings—		
Passenger, commercial	3,598,022.48	4,123,276 65
„ government	89,631.53	101,209.61
Freight, commercial	13,373,815.45	13,554,248.07
„ government	98 929.80	124,686.90
„ company	448,891.18	608,648.70
Mail	1,016,754.85	839,927.15
Express	348,907.44	370,346 20
Telegraph	52 496 72	63,324 78
Car service	303,335.74	320,607.66
Rent of buildings	32,342.00	36,109 79
Miscellaneous	324,614.29	295,830.85
Total earnings	19.687,738 48	20,438,208.36
Expenses—		
Conducting transportation	4,051,868 98	4,506,648 91
Motive power	3,710,851 15	4,210,849.95
Maintenance of cars	1,560.151 59	1,598,184 71
Maintenance of way	1,525,843 17	1,586,535 55
Renewal of rails	37,774.13	232,182.89
General expenses	404,039.16	439,418.94
Total expenses (excluding taxes)	11,290,528 18	12,573,820.43
Surplus	8,397,210.30	7,864,387.93
Taxes	551,758 60	589,628.87
Surplus earnings	7,845,451 70	7,274,759.06
Miles operated (average)	1,821 86	1,821·42
Expense ratio (including taxes)	60 15	64·41
Expense ratio (excluding taxes)	57·35	61·52

TABLE B. *Union Pacific System. Details of the Item Interest on Bonds for the Years 1891 and 1890.*

	1891. $	1890. $
Union Pacific first mortgage	1,633,740.00	1,633,740.00
„ sinking fund mortgage	481,198.35	673,426.66
„ Omaha bridge „	74,462.20	86,191.12
Kansas Pacific consolidated „	754,000.00	759,480 00
„ Eastern division „	134,400.00	134,400.00
„ Middle „ „	243,780 00	243,780 00
„ Denver extension „	356,368.75	361,540 62
Union Pacific collateral trust 6 per cent	234,492 25	241,670.99
„ „ „ „ 5 per cent.	249,452.63	255,469.78
„ „ „ „ 4½ per cent.	92,662.50	98,289.50
„ „ Omaha Bridge renewal mortg.	34,887 50	24,612 51
„ „ equipment trust	109,610.61	104,206.69
„ „ collateral trust 6 per cent. notes	379,900.50	—
Miscellaneous	1,260.00	1,260.00
Total Union Pacific Railway Co.	4,782,330.29	4,613,097.65

(Continued next page.)

Continued from preceding page.)

	$	$
Central Branch Union Pacific Railroad Co. . .	427,475.00	426,545.00
Fort Worth & Denver City and Pan-Handle Railway Companies.	477,830.00	489,858 32
Golden, Boulder & Caribou Railway Co.	4,800 00	4,800.00
Junction City & Fort Kearney Railway Co. . .	76,450.00	76,450 00
Kansas Central Railroad Co.	60.00	60.00
Kansas City & Omaha Railroad Co.	57,000.00	57,000.00
Lawrence & Emporia Railway Co.	27,900.00	27,900.00
Leavenworth, Topeka&Southwestern Railw.Co.	27,600 00	27,600.00
Oregon Railway & Navigation Co.	1,073,631.64	1,009,558.64
Oregon Short Line & Utah Northern Railw. Co.	2,083,575.18	1,805,049.22
Omaha & Republican Valley Railroad Co. . . .	36,788 35	33,791.69
St. Joseph & Grand Island Railroad Co.. . . .	419,880 00	419,880.00
Salina & Southwestern Railway Co..	32,400 00	32,400.00
Solomon Railroad Co.	34,500 00	34,500.00
Union Pacific, Lincoln & Colorado Railway Co.	223,950.00	223,968.75
Union Pacific, Denver & Gulf Railway Co. . .	455,611.78	322,082.00
Total.	10,191,682.24	9,604,496.47

TABLE C. *Details of the Item Sinking Fund Requirements for the Years 1891 and 1890.*

	1891.	1890.
The Union Pacific Railway Co.—	$	$
Union Pacific Omaha Bridge mortgage.	159,500.00	135,000.00
Union Pacific sinking fund mortgage	54,000.00	67,000.00
Kansas Pacific Denver extension mortgage . .	255,000.00	255,000 00
Union Pacific collateral trust 6 per cent. mortgage	107,405.00	110,265.00
Union Pacific collateral trust 5 per cent. mortgage	122 190.00	125,335.00
Union Pacific collateral trust 4½ per cent. mortgage.	10,237.50	12,858.75
Total Union Pacific Railway Co.	708,332.50	705,458.75
Omaha & Republican Valley Railway Co. consolidated mortgage.	20,906 67	20,826.66
Oregon Railway & Navigation Co. first mortg.	111,150.00	107,040.00
Oregon Short Line & Utah Northern Railway Co.—		
Idaho Central Railway Co. first mortgage. . .	2,830.00	2,830.00
Oregon Short Line & Utah Northern Railway Co. collateral trust indenture	126,875.00	125,000 00
Oregon Short Line & Utah Northern Railway Co. consolidated mortgage	75,320.00	60,708.67
Utah & Northern Railway Co. consold. mortg.	12,453.33	12,513.33
Union Pacific, Lincoln & Colorado Railway Co. first mortgage.	30,053.34	30,053.33
Tota auxiliary companies.	379,568.34	359,029.99
Total for the system.	1,087,900.84	1,064,488.74

TABLE D. *Funded Debt, Union Pacific Railway Company, Dec. 31st, 1891.*

Class.	*Interest payable.*	*December 31, 1891.*		
		Issued and out-standing.	*Owned by the Co. and held by trustees.*	*Afloat.*
Union Pacific Railroad Co.—		$	$	$
First mortgage bonds.	Jan. and July	27,229,000	—	27,229,000
Land grant bonds.	. . . .	a9,000	—	a9,000
Sinking fund coupon bonds . .	March and Sept.	5,427,000	—	5,427,000
Sinking fund registered bonds.	March and Sept.	608,000	—	608,000
Omaha Bridge bonds	April and Oct.	887,000	b5,000	882,000
Collateral trust 6 per cent. bonds.	Jan. and July	3,879,000	—	3,879,000
Kansas Pacific Railway Co.—				
Eastern division bonds	Feb. and Aug.	2,240,000	—	d2,240,000
Middle division bonds	June and Dec.	4,063,000	—	d4,063,000
Denver extension bonds	May and Nov.	5,887,000	b1,000	d5,886,000
Leavenworth branch bonds . .	May and Nov.	600,000	c582,000	18,000
Consolidated mortgage bonds.	May and Nov.	12,470,000	—	12,470,000
Income bonds	March and Sept.	263,700	e242,450	21,250
Income bonds (subordinated) .	March and Sept.	4,011,650	c3,992,650	19,000
Cheyenne branch bonds	May and Nov.	1,975,000	c1,971,000	4,000
Denver extension coupon certificates.	May and Nov.	385	—	385
Union Pacific Railway Co.—				
Trust 5 per cent. bonds	June and Dec.	4,921,000	—	4,921,000
Trust 5 per cent. bonds registered.	June and Dec.	18,000	—	18,000
Omaha Bridge renewal bonds	April and Oct.	734,000	b145,000	589,000
Equipm. trust bonds, Series A.	April and Oct.	430,000	—	430,000
" " " " B.	April and Oct.	1,473,000	—	1,473,070
" " " " C.	April and Oct.	671,000	b671,000	—
Kansas division and collateral mortgage bonds.	May and Nov.	5,000,000	b5,000,000	—
Collateral trust 4½ per cent. bonds.	May and Nov.	2,051,000	b237,000	1,814,000
Collateral trust 6 per cent. notes	Feb. and Aug.	18,476,000	c183,000	18,293,000
Total.	. . . .	103,323,735	13,030,100	90,293,635

a These bonds were due April 1, 1889, but have not yet been presented for redemption.

b Owned by the company, and held by the trustees under the trust indenture of September 4, 1891, as part security for the collateral trust 6 per cent. notes.

c Held by the trustees under the Kansas Pacific consolidated mortgage.

d Of these amounts, $256,000 in Eastern division bonds, $282,000 in Middle division bonds and $1,251,000 in Denver extension bonds, on which the Union Pacific Railway Co. pays interest, are held as investments in the Kansas Pacific Denver extension sinking fund.

e $241,200 of these bonds are held by the trustees under the Kansas Pacific consolidated mortgage, the balance, or $1,250, are owned by the company, and held by the trustees under the trust indenture of September 4, 1891, as part security for the collateral trust 6 per cent. notes.

TABLE E. *Sinking Fund of the U. P. Railroad Company, established under the Thurman Act, in the Treasury of the United States, December 31st, 1891 and 1890.*

	Dec. 31, 1891.	*Dec. 31, 1890*
	$	$
Amount withheld for transportation services, and carried to the credit of the sinking fund.	8,370,993.59	7,709,600.98
Cash paid by the company.	1,421,714 46	1,421,714.46
Interest collected on bonds held in the sinking fund	2,481,417.14	1,974.177.14
Total	12,274,125.19	11,105,492.58
Application of above—		
United States 4 per cent. bonds.	—	666,900.00
United States 6 per cent. bonds.	235,000 00	1,048,000 00
Union Pacific first mortgage 6 per cent. bonds	4,758,000.00	3,584,000 00
Atchison & Pike's Peak first mortgage 6 per cent. bonds	857,000.00	755,000.00
Central Pacific first mortgage 6 per cent. bonds	2,700,000.00	2,077,000.00
Kansas Pacific, Eastern division, first mortgage 6 per cent. bonds.	188,000.00	81,000.00
Kansas Pacific, Middle division, first mortgage 6 per cent. bonds	697,000.00	507,000 00
Sioux City & Pacific first mortgage 6 per cent. bonds	643,500 00	622,500.00
Western Pacific first mortgage 6 per cent. bonds. . . .	198,000.00	92,000.00
Total bonds at par.	10,361,500.00	9,368,400 00
Premium paid on bonds bought for the sinking fund	1,729,296.04	1,716,438.68
Balance in the sinking fund, uninvested.	183,329.15	20,653.90
Total	12,274,125.19	11,105,492.58

TABLE F. *The U. P. Railway Company. Bonds of other Railroad Companies owned December 31st, 1891, and December 31st, 1890.*

Name.	*Rate of Par.*	*Rate of Interest.*	1891.	1890.
			Par Value.	*Par Value.*
		p.c.		
Colorado Central Railroad Co..	$1,000	7	$4,500,000	$4,097,000
	1,000	8	22,000	22,000
Denver, Marshall & Boulder Railway Co.	1,000	5	—	10,000
Denver, Leadville & Gunnison Railway Co., first mortgage..	1,000	4½	2,308,000	2,308,000
Echo & Park City Railway Co.	1,000	6	480,000	480,000
Idaho Central Railway Co.	1,000	6	91,000	94,000
Kansas Central Railroad Co.	1,000	6	1,347,000	1,347,000
Kansas City & Omaha Railroad Co.	500 1,000	5	1,595,500	1,182,500
Kearney & Black Hills Railway Co	1,000	5	105,000	—
Manhattan, Alma & Burlingame Railway Co.	1,000	6	339,000	339,000
Omaha & Republican Valley Railroad Co., first mortgage	1,000	7	1,557,000	1,557,000
Omaha & Republican Valley Railway Co., consolidated	1,000	5	2,401,000	2,432,000
Omaha & Republican Valley Railway Co. extension	1,000	5	1,246,000	1,246,000
Oregon Short Line & Utah Northern Railway Co. consolidated	1,000	5	1,827,000	1,811,000
Oregon Short Line & Utah Northern Railway Co. collateral trust	500 1,000	5	4,430,500	4,631,000
St. Louis, Council Bluffs & Omaha Railroad Co.	500 1,000	6	19,500	19,500
Union Pacific, Denver & Gulf Railway Co. consolidated.	1,000	5	7,387,000	7,157,000
Utah & Northern Railway Co., first mortgage	1,000	7	4,420,000	4,420,000
Utah Southern Railroad Co., first mortgage	1,000	7	389,000	—
Utah Southern Railroad Co. extension	1,000	7	982,000	982,000
Western Pacific Railroad Co...	1,000	6	12,000	12,000
Total bonds	—	—	*a* $35,350,500	*a* $34,727,000

(*Continued next page.*)

(*a*) Excluding the bonds held by the American Loan & Trust Company; Trustee, for the benefit of the mortgage creditors of the Kansas Pacific Railway Co., and the bonds held by the Trustees under the Kansas Pacific consolidated mortgage; also excluding $470,000 in Loveland Pass Mining & Railroad Tunnel Co. bonds and $250,000 in Nevada Central Railway Co. income bonds, owned by the company, but which have for some years been carried in the accounts at nominal figures only.

Stocks of other Railroad Companies owned December 31st, 1891, and December 31st, 1890. (Continued).

Name.	*Rate of Par.*	1891.	1890.
		Par Value.	*Par Value.*
		$	$
Atchison, Colorado & Pacific Railroad Co.	100	930,300.00	124,400.00
Atchison, Jewell County & Western Ry. Co.	100	105,000.00	—
Carbon Cut-Off Railway Co.	100	220,000.00	220,000.00
Central Branch Union Pacific Railroad Co.	100	874,200.00	858,800.00
Denver, Leadville & Gunnison Railway Co.	100	3,000,000.00	3,000,000.00
Echo & Park City Railway Co.	100	480,000.00	480,000.00
Junction City & Fort Kearney Railway Co.	100	44,000.00	44,000.00
Kansas Central Railroad Co.	100	1,313,400.00	1,313,100.00
Kansas City & Omaha Railroad Co.	100	1,725,375.00	1,725,375.00
Kearney & Black Hills Railway Co.	100	337,986.01	—
Laramie, North Park & Pacific Railroad & Telegraph Co.	100	66,500.00	66,500.00
Lawrence & Emporia Railway Co.	100	465,000.00	465,000.00
Leavenworth, Topeka & Southw. Ry. Co.	100	550,900.00	550,900.00
Manhattan, Alma & Burlingame Ry. Co.	100	418,650.00	418,650.00
Montana Railway Co.	100	a 420,000.00	a 420,000.00
Montana Union Railway Co.	100	425,000.00	425,000.00
Nevada Pacific Railway Co.	100	30,000.00	b 300.00
Omaha & Elkhorn Valley Railway Co.	100	40,300.00	40,300.00
Omaha & Republican Valley Railway Co.	100	2,327,523.77	2,327,523.77
Oregon Short Line & Utah Northern Ry. Co.	100	14,980,705.33	14,989,905.33
St. Joseph & Grand Island Railroad Co.	100	2,301,500.00	2,301,500.00
St. Joseph Terminal Railroad Co.	100	25,000.00	25,000.00
Salina & Southwestern Railway Co.	100	231,700.00	231,700.00
South Park & Leadville Short Line Railr. Co.	100	1,000,000.00	1,000,000.00
Union Pac., Denver & Gulf Railway Co.	100	13,251,882.00	13,250,947.00
Union Pac., Lincoln & Colorado Railway Co.	100	1,997,800.00	1,997,800.00
Union Pac. & Western Colorado Railw. Co.	100	400,500.00	400,500.00
Total	—	47,983,201.01	c 46,687,309.10

Summary.		1891	1890
		$	$
Par value of bonds (see opposite page)	—	35,358,500.00	34,727,000.00
Par value of stocks	—	47,983,201.01	46,687,309.10
Total par value	—	83,341,701.01	81,414,309.10
Cost as per balance sheet	—	43,880,152.67	43,177,226.17

a Seventy per cent. paid in on $600,000.

b Ten per cent. paid in on $3,000.

c Excluding $9,100 in stock of the Colorado Western Railroad Co., $6,000 in stock of the Gray's Peak, Snake River & Leadville Railroad Co., $4,800 in stock of the Loveland Pass Mining & Railroad Tunnel Co., and $959,500 in stock of Nevada Central Railway Co. owned by the company, but which for some years have been carried in the accounts at nominal figures only.

TABLE G. *Estimate of Unsold Lands on hand Dec. 31st, 1891.*

Land Grant.	*Acres.*				*Estimated Value.*
	Arid Lands.	*Grazing Lands.*	*Agricultural Lands.*	*Total.*	
Union Pacific Railroad—					$
In Nebraska	—	35,000	22,000	57,000	215,000.00
„ Wyoming, Utah and Colorado	800,000	2,129,000	—	2,929,000	2,129,000.00
Total	800,000	2,164,000	22,000	2,986,000	2,344,000.00
Kansas Pacific Railroad—					
In Kansas, east of the 394th M. P.	—	—	365,000	365,000	2,190,000.00
„ Kansas, west of the 394th M. P.	—	—	344,000	344,000	1,548,000.00
„ Colorado, Denver ext. mortg.	—	1,534,000	568,000	2,102,000	5,340,000.00
„ Colorado, Denver Pac. mortg.	—	283,000	70,000	353,000	1,022,500.00
Total	—	1,817,000	1,347,000	3,164,000	10,100,500.00
Grand totals	800,000	3,981,000	1,369,000	6,150,000	12,444,500.00

TABLE H. *The Union Pacific System. Earnings and Expenses for the Years 1891 and 1890.*

	1891.	1890.
Average mileage o[illegible]ted	7,698·4	7,592·9
Earnings—	$	$
Passenger, commer[illegible]	8,357,309.98	8,189,242.07
„ gover[illegible]l	138,386.70	147,332.61
Freight, commercial	29,283,250.22	30,049,759.38
„ government	141,858.66	165,474.30
„ company	1,115,446.21	1,115,686.57
Mail	1,758,249.68	1,529,202.75
Express	674,517.00	692,770.39
Telegraph	96,962.57	106,309.97
Car service	639,816.56	572,196.89
Rent of buildings	57,254.77	60,242.09
Miscellaneous	448,015.11	421,050.56
Total Earnings	42,699,567.83	43,049,249.36
Expenses—		
Conducting transportation	9,129,102.66	9,781,679.50
Motive power	6,467,518.34	10,210,675.41
Maintenance of cars	2,873,264.91	2,884,756.74
Maintenance of way	5,276,670.86	5,049,190.66
Renewal of rails	181,564.56	531,655.72
General expenses	740,174.96	886,008.56
Total expenses (taxes excluded)	27,668,896.35	29,343,961.61
Surplus	15,030,691.48	13,705,288.35
Taxes	1,491,381.87	1,467,302.46
Surplus earnings (taxes deducted)	13,539,309.61	12,238,984.09
Miles operated (average)	7,698·35	7,592·94
Expense ratio (including taxes)	68·29	71·67
Expense ratio (excluding taxes)	64·80	68·16

TABLE I. *Union Pacific Ry. Income received from Investments.*

Names of Securities.	*1891.*
	$
Railroad bonds—	
Colorado Central Railroad Co.	318,325.28
Echo & Park City Railway Co	28,800.00
Idaho Central Railway Co.	2,743.50
Kansas Pacific, Denver extension	60.00
Kearney & Black Hills Railway Co	5,250.00
Omaha & Republican Valley Railroad Co.	64,190.00
Omaha Bridge	360 00
Omaha Bridge renewal	3,625 00
Oregon Short Line & Utah Northern Railway Co.	184,288.19
St. Louis, Council Bluffs & Omaha Railroad Co.	1,755 00
Union Pacific, Denver & Gulf Railway Co.	374,045.00
Union Pac. collateral trust 4½ p c.	10,665.00
Utah & Northern Railway Co.	147,490 00
Western Pacific Railroad Co.	1,080.00
Miscellaneous bonds—	
Atchison. Union Depot & Railroad Co.	112.50
Beatrice Precinct, Nebraska.	1,920 00
Blue Springs Precinct, Nebraska.	640.00
City of Wichita, Kansas.	1,539.81
City of Junction City, Kansas	450 00
Green River Water Works Co.	13,386 33
Union Pacific Coal Co.	110,950 00
Valley Township, Kansas.	20 00
Total income from bonds.	1,271,695 61
Miscellaneous stocks, etc—	
Green River Water Works Co	13,500 00
Occidental & Oriental Steamship Co	100,000.00
Pacific Express Co.	192,000.00
Pullman Association cars.	227,559.77
St. Louis & Miss. Valley Transportation Co	3,480 00
Union Elevator Co., Omaha.	8,100 00
Union Elevator Co., Council Bluffs.	350.00
Union Pacific Coal Co.	88,758.00
Total income from stocks, etc.	633,747.77
Total income from bonds, stocks and other investments.	a 1,905,443.38

a Excluding the income received from the securities held in the Kansas Pacific consolidated mortgage trust, the trust for the benefit of the mortgage creditors of the Kansas Pacific Railway Company, the Denver extension sinking fund and the Union Pacific sinking fund 8 per cent. trust.

TABLE J. *Amount of Stock per Mile of the System, December 31st, 1891.*

Roads.	*Miles.*	*Stock Issu'd.*	*Owned by Union Pacific.*	*Owned by Other Companies in System.*	*Afloat.*
		$	$	$	$
Union Pacific Railway Co.	1,821·86	60,868,500.00	117,450.00	—	60,691,050 00
Average per Mile	—	33,410 09	97.40	—	33,312·69
Operated Roads—					
Carbon Cut-Off Railway Co.	19·17	220,000.00	220,000.00	—	—
Denver & Boulder Valley Railroad Co. [a]	26 97	—	—	—	—
Denver, Leadville & Gunnison Railway Co.	324 72	3,000,000.00	3,000,000 00	—	—
Echo & Park City Railway Co.	30 10	480,000.00	480,000 00	—	—
Fort Worth & Denver City Railway Co.	[b]469·15	[b]9,665,000 00	—	8,156,000.00	1,509,000 00
Junction City & Fort Kearney Railway Co.	88 00	1,056,100.00	764,000.00	—	292,100.00
Kansas Central Railroad Co.	165·49	1,348,000.00	1,313,400.00	—	34,600.00
Kansas City & Omaha Railroad Co.	195 66	4,410,000.00	1,725,375.00	1,822,500.00	862,125.00
Laramie, North Park & Pacific Railroad & Telegraph Co.	13 36	66,500.00	66,500 00	—	—
Omaha & Republican Valley Railway Co.	462·05	2,347,050.00	2,327,523.77	—	19,526·23
Oregon Railway & Navigation System	1,059·33	29,208,200.00	—	[c]19,556,400.00	9,651,800 00
Oregon Short Line & Utah Northern Railway Co.	1,424·84	26,244,853.33	14 990,703.33	—	11,254,149 99
St. Joseph & Grand Island Railroad Co.	251·08	4,600,000.00	2 301 500.00	—	2,298,500.00
Saline & Southwestern Railway Co.	35 47	288,400.00	231,700.00	—	56,700.00
Solomon Railroad Co.	57 04	1,108,850.00	1,000,500 00	—	108,350 00
Union Pacific, Denver & Gulf Railway Co.	984·45	33,837,092.00	13,251,882.00	3,408,800.00	17,176,410.00
Union Pacific, Lincoln & Colorado Railway Co.	225 85	2,184,800 00	1,997,800.00	—	187,000.00
Total, operated roads	5,850·23	120,064,846.22	43,670,884.10	32,941,700.00	43,452,262.12
Average per mile	—	20,523.09	7,464.82	5,630 83	7,427.44
Total, owned and operated roads	7,672·09	180 933,346.22	43,788,334.10	32 941,700.00	104,143,312.12
Average per mile	—	23,583.31	5,715.30	4,293.70	13,574 31

[a] The title to this railroad is vested in the Trustees under the Kansas Pacific consolidated mortgage.

[b] Includes 14·54 miles of road and $280,000 in capital stock of the Pan-Handle Railway Company.

[c] This amount is owned and held by the Oregon Short Line and Utah Northern Co.

Earnings and Expenses of the Companies composing the System for the Year 1891.

Name of Company.	*Earnings.*	*Expenses (taxes not included).*	*Surplus.*	*Taxes.*	*Surplus earnings (taxes deducted).*	*Average mileage operated.*
	$	$	$	$	$	
Union Pacific Railway Co.	19,687,738.48	11,290,528.18	8,397,210.30	550,758.60	7,846,451.70	1,821.86
Carbon Cut-Off Railway Co.	22,593.76	21,045.16	1,548.60	1,694.92	a146.32	19.17
Denver & Boulder Valley Railroad	87,969.93	85,142.58	2,827.35	4,786.10	a1,958.75	28.97
Denver, Leadville & Gunnison Railway Co.	967,447.86	957,235.22	10,212.64	58,065.15	a47,852.51	324.72
Echo & Park City Railway Co.	123,640.04	82,310.70	41,329.85	2,348.33	38,981.52	30.10
Junction City & Fort Kearney Railway Co.	133,607.89	129,694.06	3,913.83	17,860.86	a13,947.03	98.00
Kansas Central Railroad Co.	162,419.31	286,354.59	a123,935.28	26,244.28	a150,179.56	165.49
Laramie, North Park & Pacific Railroad & Telegraph Co.	784.02	3,732.43	a2,948.41	967.15	a3,915.56	13.36
Omaha & Republican Valley Railway Co.	1,186,673.14	1,254,807.37	a68,134.23	101,941.13	a170,075.36	462.05
Oregon Short Line & Utah Northern Railway Co.	7,574,456.52	4,574,151.21	3,000,305.31	216,391.15	2,783,914.16	1,422.21
Oregon Railway & Navigation Co.'s Rail Lines	5,673,172.14	3,816,388.39	1,856,783.75	151,737.74	1,705,046.01	1,059.33
St. Joseph & Grand Island Railroad Co.	846,338.35	619,503.30	226,835.05	63,104.05	163,731.00	251.06
Kansas City & Omaha Railroad Co.	137,324.76	111,398.35	25,926.41	32,802.16	a6,875.75	193.68
Salina & Southwestern Railway Co.	47,651.79	50,912.31	a3,260.52	6,377.46	a9,637.98	85.47
Solomon Railroad Co.	138,840.89	81,307.48	57,533.41	9,296.90	48,236.51	57.04
Union Pacific, Lincoln & Colorado Railway Co.	211,964.30	69,913.35	142,050.95	34,451.80	107,599.15	225.85
Union Pacific, Denver & Gulf Railway Co.	3,732,243.94	2,903,543.87	828,700.07	171,707.74	656,992.33	983.94
Fort Worth & Denver City Railway Co.	2,014,720.16	1,360,927.76	653,792.40	40,846.35	612,946.05	459.15
Total	42,699,587.83	27,668,896.35	15,030,691.48	1,491,381.87	13,539,309.61	7,698.85

a Deficit.

The Union Pacific System. Amount of bonds per Mile of the System, December 31st, 1891.

Roads.	*Miles.*	*Bonds Outstanding.*	*Owned by Union Pacific.* (a)	*Owned by other Companies in the System.*	*Afloat.*
		$	$	$	$
Union Pacific and Kansas Pacific		90,293,635.00	1,799,000.00	—	88,494,635.00
United States bonds issued to Un. Pac. and Kan. Pac.		33,539,512.00	—	—	33,539,512 00
Interest on United States bonds, balance of account		17,405,683.29	—	—	17,405,683.29
Total Union Pacific Railway Co.	1,821 86	141,238,830.29	1,799,000 00	—	139,439,830.29
Average per mile.	—	77,524 52	987 45	—	76,537 07
Operated Roads—					
Carbon Cut-Off Railway Co.	19·17	—	—	—	—
Denver & Boulder Valley Railroad.	26·97	—	—	—	—
Denver, Leadville & Gunnison Railway Co.	324 72	2,308,000 00	2,308,000.00	—	—
Echo & Park City Railway Co	30·10	460,000.00	460,000.00	—	—
Fort Worth & Denver City Railway Co.	b 469·15	b 8,561,000.00	—	596,000.00	7,965,000.00
Junction City & Fort Kearney Railway Co.	88·00	1,141,000.00	1,141,000.00	—	—
Kansas Central Railroad Co.	165·40	1,348,000.00	1,347,000.00	—	1,000.00
Kansas City & Omaha Railroad Co.	193 68	2,713,000.00	1,595,500.00	—	1,117,500.00
Laramie, North Park & Pac. RR. & Telegraph Co.	13·36	—	—	—	—
Omaha & Republican Valley Railway Co.	482·05	5,941,000.00	5,840,000 00	c 99,000.00	2,000 00
Oregon Railway & Navigation Co.	1,059·35	31,682,080.00	—	11,093,080 00	20,589,000 00
Oregon Short Line & Utah Northern Railway Co.	1,424·64	50,179,000 00	12,139,500.00	2,054,000.00	35,985,500.00
St. Joseph & Grand Island Railroad Co.	251·06	8,748,692 04	—	35,100.00	8,713,592 04
Salina & Southwestern Railway Co.	35·47	540,000 00	540,000 00	—	—
Solomon Railroad Co	57·04	575,000 00	575,000 00	—	—
Union Pacific, Denver & Gulf Railway Co.	984·45	22,436,000.00	12,049,000 00	1,027,000.00	9,360,000 00
Union Pacific, Lincoln & Colorado Railway Co.	225·35	4,479,000.00	74,000.00	—	4,405,000 00
Total, operated roads	5,850·23	141,081,772 04	38,089,000.00	14,904,180.00	88,088,592.04
Average per Mile.	—	24,115.59	6,510.68	2,547.65	15,057 23
Total, owned and operated roads	7,672·09	282,320,602 33	39,888,000 00	14,904,180.00	227,528,422.33
Average per mile	—	36,798.39	5,199.01	1,942 74	29,656.64

a Under this head are included all bonds of roads in the system owned by the Union Pacific Railway Co., whether in its possession or on deposit in any of its trusts or sinking funds.

b Includes 14·54 miles of road and $225,000 in first mortgage bonds of the Pan-Handle Railway Co.

c This amount is held in the Omaha & Republican Valley Railway Co. consolidated mortgage sinking fund.

Classified Freight, (a) in Pounds, forwarded during the Years 1891 and 1890.

Articles.	*1891.*	*1890.*
Mineral Products—	Pounds.	Pounds.
Coal	4,121,957,000	3,831,628,000
Coke	226,900,000	178,374,000
Stone and Brick	664,531,000	920,163,000
Cement, Plaster and Lime	119,464,000	120,954,000
Salt	165,125,000	126,190,000
Ore (Iron) Ore (Copper) Ore (Silver)	909,404,000	867,221,000
Total	6,207,381,000	6,044,534,000
Agricultural Products—		
Wheat	1,419,872,000	727,692,000
Corn	737,364,000	1,446,441,000
Oats, Barley, Rye, Flaxseed, etc.	422,351,000	295,884,000
Hay	228,274,000	254,482,000
Fruits, Vegetables and Seeds	388,580,000	320,227,000
Cotton	22,948,000	20,400,000
Total	3,219,389,000	3,045,036,000
Groceries and Provisions—		
Tea	24,138,000	21,676,000
Groceries, etc.	204,711,000	182,734,000
Provisions	232,506,000	246,218,000
Total	461,355,000	450,628,000
Hardware and Metals—		
Hardware stock, Iron, Nails, etc.	140,423,000	163,240,000
Steel Rails and Railroad Material	32,444,000	86,460,000
Bullion and Lead	171,284,000	120,284,000
Matte and Tailings	77,918,000	80,362,000
Total	422,069,000	450,346,000
Animal Products—		
Hides and Tallow	28,809,000	22,256,000
Pelts and Wool	38,226,000	39,400,000
Total	67,035,000	61,656,000
Animals—		
Cattle	834,149,000	907,852,000
Hogs	375,557,000	312,984,000
Horses and Mules	58,181,000	60,424,000
Sheep	88,912,000	114,641,000
Total	1,356,799,000	1,395,101,000
Miscellaneous—		
Wines and Liquors	79,733,000	88,056,000
Machinery and Castings	86,828,000	125,924,000
Agricultural Implements	59,404,000	38,321,000
Wagons, Carriages, Tools, etc.	25,915,000	28,202,000
Lumber, and other Forest Products	1,296,631,000	1,621,173,000
Drugs, Paints, Glass, Oils, etc.	124,390,000	117,820,000
Dry Goods, Clothing, Boots, Shoes, etc.	20,316,000	15,888,000
Flour, Meal, Bran and Millstuff	373,757,000	310,196,000
Furnit., Househ. Goods and Emigrants' Movab.	99,216,000	102,573,000
Miscellaneous	1,136,514,000	1,455,666,000
Total	3,302,704,000	3,900,819,000
Grand Total	14,926,732,000	15,846,200,000

a Company freight not included.

CHAPTER XLVI.

THE GREAT NORTHERN SYSTEM.

(*Including the St. Paul, Minneapolis and Manitoba RR.*)

The Minnesota and Pacific RR. Company was incorporated in 1857, and soon after its foundation obtained permission to construct a railroad from St. Paul in the direction of the Pacific coast. Railroads being then in eager demand throughout the Northwest, the Executive of the State of Minnesota showered favours upon the young enterprise and endowed it with a considerable land grant, amounting to six sections (one section = 1,260 acres) for every mile constructed, a grant which later on was increased to ten sections. By 1859, 63 miles of road had been completed, and the company lacking funds to embark upon further construction the State granted a loan of $600,000, to be secured by a second lien upon the property. In 1860 the corporation was unable to pay interest on this advance, and in consequence the State foreclosed the trust deed and purchased the road. Minnesota, however, shared the experience of other States who did their railroading themselves, and after two years transferred its charter, properties and privileges to the St. Paul and Pacific RR. Co., which was formally incorporated in 1864, the transfer having taken place in 1862. This company again transferred part of its rights to the St. Paul and Pacific First Division RR. Company, a subsidiary corporation which was to complete the main line over a distance of some 200 miles, while the St. Paul and Pacific proper undertook to construct the remainder, going from the junction with the First Division through the Red River Valley, which was just then commencing to attract settlers towards Winnipeg. At that stage the company came under the temporary control of the Northern Pacific and did far from well; the crisis of 1873 found it in a prostrate condition leading to its default, so that it went into the hands of a receiver before its lines were completed. In order to finish the road — as was necessary to avoid the forfeiture of the land grants — the bondholders authorised the receiver to issue $5,000,000 certificates, bearing 10 p.c. interest per annum and redeemable within five years. Only part of the authorised amount of these bonds was issued, and that part was redeemed within a few years.

In the meantime Mr. James J. Hill had risen from a very humble position to that of a small capitalist, and recognising the prospects of the St. Paul & Pacific RR., he endeavoured to obtain control of the property. Mr. Hill had connections with the Hudson's Bay Company and with some Canadian financiers, notably Sir George Stephen (now Lord Mount Stephen) and Mr. (now Sir) Donald Smith, and in conjunction with these two gentlemen, later prominently associated with the Canadian Pacific, he succeeded in his plans. The bondholders, mostly Dutchmen, were at that time endeavouring to bring about a reorganisation, but were opposed by the shareholders, and considerable difficulties were in prospect. Consequently Sir George found willing ears when he arrived at Amsterdam, and the bondholders, alarmed by the sad effects which the crisis had had upon roads in general and upon their property in particular, were easily induced to sell their holdings at a sacrifice. The syndicate which Sir George Stephen represented undertook to fight the shareholders at its own cost, and to take the five descriptions of bonds held in Holland at the rate of 75, 35, 30, 28 and 13¾ per cent. respectively, payment to be made either in gold or in the 7 p.c. first mortgage bonds of the new corporation that was to be founded. Most bondholders assented and sold out, only a few objecting; but when these received their share after the property had been sold in foreclosure they found that it would have been wiser to have shouted with the crowd. This, however, seems to have been the case mainly because the sale in foreclosure bore little resemblance to Caesar's wife; at least this must be deduced from the fact that it was openly asserted that the property was sold at a price much below its actual value. Mr. Sahlgaard, at that time Swedish Consul in St. Paul, offered to defend the rights of the dissenting bondholders without any risk to themselves, but after carrying his case before two Courts without obtaining judgment in his favour he came to a compromise with the new company, which agreed to pay him more for the bonds he represented than it had given for the others. It appeared later that Mr. Sahlgaard, did not receive justice, for a few years after the reorganisation the receiver of the road sued the syndicate for one-fourth of the plunder they had made over the affair. Plaintiff said he had assisted in scaring the Dutch bondholders and in selling the road below its cost on the understanding that he would receive part of the spoils, but the Court refused to "believe his testimony wherein he claimed to have deliberately violated the trust reposed in him by the Court when they appointed him receiver of the road," and therefore did not support his claim for some $12,500,000.

The magnitude of this claim proves conclusively that the purchasing syndicate, which in 1879 had organised the St. Paul, Minneapolis and Manitoba RR. Company, had made a profitable bargain; indeed, ever since then Mr. Hill and his associates have been known as powerful capitalists. Of the three principal partners he was the only one who applied himself exclusively to the Manitoba road, Messrs. Stephen and Smith having meantime embarked upon the Canadian Pacific, a venture which brought them fame and honours in addition to the wealth they had made over the transaction concluded in co-partnership with Mr. Hill. Although his partners were men of no mean distinction, their intellect was far inferior to his. A farmer's son, he had been a 'hand' on one of the Mississippi wharves in St. Paul, and a waggon driver in the service of the Hudson's Bay Company, but he gradually got on in the world, and when he had risen to a position of more prominence he soon displayed qualities which gained for him the reputation of having the longest head in the entire Northwest. Mr. Hill is equally famous as a practical railroad man, as an administrator and as a financier; the conversion of the insignificant and prostrated St. Paul and Pacific into the important, sound and strong Great Northern, which is entirely his work, testifies to his extraordinary capacities. Apart from brains, however, he has had the support of good fortune. Soon after the St. Paul, Minneapolis and Manitoba had been organised (1879) there came the famous boom of the early eighties, which nowhere raged more fiercely than in the Northwest; and the St. Paul, Minneapolis and Manitoba RR., being exceedingly well managed, had extraordinary earnings which kept on increasing in spite of the extensions that were carried out in the meantime. As will be seen from the subjoined table the net receipts per mile rose from $1,798 in 1879 to $3,282 in 1883, and as a result the company earned heavy surpluses which, however, were not distributed at once but partly kept in reserve, a method frequently adopted in the United States.

Table showing Growth, Earnings, and Earnings per Mile on the St. Paul, Minneapolis and Manitoba RR., 1879—1884.

Year ending June 30.	*Average mileage operated.*	*Gross earnings.* $	*Net earnings.* $	*Gross earnings per mile.* $	*Net earnings per mile.*
1879	560	2,009 947	1,006,491	3,589	1,798
1880	656	2,933,118	1,632,508	4,471	2,489
1881	702	3,700,852	1,954,756	5,271	2,784
1882	926	6,629,694	3,308,917	7,159	3,573
1883	1,203	9 148,524	4,806,581	7,605	3,994
1884	1,378	8,256,868	4,522,161	5,992	3,282

In 1882-3 net earnings amounted to $4,805,531, to which more than $1,000,000 revenue from land and investments had to be added, making an available income of $5,827,333; and after a dividend of 9⅓ per cent. had been paid there still remained a balance of $1,656,000, which, together with the supluses of previous years, built up a reserve fund of nearly four millions. Yet there were at that time considerable charges. In 1883 the share capital was increased from fifteen to twenty millions and the funded debt, growing simultaneously with the mileage, totalled up $20·8 millions; but so splendid were the results that in the autumn of 1883 $10,000,000 consolidated mortgage bonds were issued to the shareholders by way of dividend at the rate of 10 per cent. of their par value; and Mr. Hill being by that time the principal stockholder, this distribution of course increased his wealth, which was already of formidable dimensions. This considerable amount of water, however, in no way interfered with the regular returns upon the share capital; and although the dividend of 1883 could not be maintained, the common stock has never received less than 6 p.c. in any year since then. This achievement is the more marvellous because extension never ceased; but it was carried out so judiciously that it had no derogatory influence either upon earnings or upon returns, — a fact mainly due to the abilities of the president. The road is so well built that its operating expenses in proportion to its earnings are phenomenally low; there is no important system in the entire country where they have never exceeded 56 per cent. and where they usually remain below 51. But neither is there a greater master of detail than the president of this road; the intimate knowledge of every trifle which he displays in conversation, his astounding memory and his far-sightedness excite marvel and admiration.

Under the able conduct of Mr. Hill the road gradually expanded into the transcontinental system it is to-day. Running parallel with the Northern Pacific it taps the best wheat districts of Minnesota and the Dakotas, goes into Montana, and is at present completed as far as Spokane in Washington, where it connects with the Union Pacific Lines for the Pacific coast, it being intended to complete the extension to Seattle as soon as possible. The length of all lines of the Manitoba system proper is now 2,807 miles (see statement on p. 660) and all are operated by the Great Northern Railway Company, which has leased the system for 999 years and guarantees interest on the entire debt and an annual dividend of 6 p.c. on the share capital. Details of traffic of the St. Paul, Minneapolis and Manitoba RR. are included in those of the Great Northern on p. 661; it will therefore be sufficient to quote here the following.

Earnings and Expenses (four years).

		1890—91. $	1889—90. $	1888—89. $	1887—88. $
Passenger earnings	The estimated gross earnings for the year ending June 30, 1892 (3,350 miles) are $12 991,251.	1,876,960	1,774,568	1,869,865	1,823,262
Freight		7,628,011	6,915,167	6,075,637	7,277,333
Mail, expr., rentals, etc. . .		776,743	684,265	641,064	461,310
Total gross earnings . .		10,281,714	9,374,000	8,586,566	9,561,905
Maintenance of way, etc. .		1,243 001	776,506	1,133,372	1,445,966
Mainten. of cars		513,670	487,517	424,426	497,766
Motive power		1,628 645	1,478,840	1,530,281	1,757,198
Transportation		1,302,052	1,342,490	1,107,413	968,159
General		476,567	551,620	466,083	457,073
Taxes		290,651	274,351	268,501	293,921
Total		5,463,606	4,791,124	5,000,076	5,419,986
Net earnings		4,81 8,108	4,582,876	3,586,490	4,141,919
P. c. of exp. to earn.		53 14	51·11	58·23	56·68

Income Account, 1890-91.

	$
Revenue—	
Rental from Great Northern	4,084,672
Land department	306,730
	4,391,402
Expenditure—	
Interest on bonds	2,873,598
Dividends on stock	1,200,000
Expense of maintaining organisation	11,074
Transferred from land department to sinking fund	306,730
	4,391,402

General Balance Sheet, June 30th, 1891.

	$	$
Assets—		
Cost of railway equipment and lands		79,041,828.52
Pacific extension account		9,696,969.70
Premium paid on bonds redeemed		200,000.00
Current—		
Cash in hands of assistant treasurer	149,685.55	
Cash in hands of trustees, first mortgage bonds . .	20,459.81	
		170,224.36
		89,109,053.58
Liabilities—		
Capital stock		20,000,000.00
Funded Debt—		
First mortgage bonds	8,000,000.00	
Less land grant bonds redeemed	4,000,000.00	
Balance	4,000,000.00	
St. Paul and Pacific Ry. bonds	366,000.00	
Second mortgage bonds	8,000,000.00	
Dakota extension bonds	5,676,000.00	
Consolidated mortgage bonds, 6 per cent	13,344,000.00	
Consolidated mortgage bonds, 4½ per cent	14,127,000.00	
Montana extension bonds	7,616,000.00	
Pacific extension bonds	9,696,969.70	62,825,969.70
Sinking Funds—		
Land grant bonds redeemed		4,000,000.00
Premium paid on bonds redeemed		200,000.00
Balance for account first mortgage		84,581.43
Balance for account consolidated mortgage		72,761.21
Current Liabilities—		
Audited vouchers unpaid		11,912.72
Unpaid pay roll		1,000.00
Balance		1,912,828.52
		89,109,053.58

The company still owns some 1,636,656 acres of the 4,300,000 received as land grants (see above) while moneys due by purchasers aggregate over $1,200,000.[1] The proceeds from land sales are applied to the redemption of first mortgage bonds (at 105 or less) of which some $4,000,000 are still outstanding.

The Great Northern Railway Company, which is likewise presided over by Mr. James J. Hill, embraces the railways enumerated in the subjoined statement, and has a total length of 3,682 miles (March 31st, 1892.)

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[1] It is customary for railroads to sell their real estate upon the instalment plan.

Great Northern Railway. *Leased from St. P. M. & M. Ry.*	*Miles.*					
	Main track.	*Second track.*	*Third track.*	*Fourth track.*	*Side track.*	*Total.*
Fergus Falls div.	582·70	12·26	8·10	8·10	138·50	
Breckenridge div.	571·07	14·66	—	—	76·73	
Northern div.	584·10	—	—	—	61·25	
Dakota div.	505·59	—	—	—	46·41	
Montana div.	564·18	—	—	—	56·55	
	2,807·64	26·92	8·10	8·10	379·44	
†Total main track G. N. Ry	. . . .	. . . .	. . . .	. . . .	2,850·76	3,230·20
Proprietary Companies.						
Eastern Ry. of Minn.	72·39	—	—	—	31·98	104·37
*Montana Central Ry.	192·54	—	—	—	21·82	214·36
Willmar & S. F. Ry.	146·91	—	—	—	11·22	158·13
Duluth, W. & P. Ry.	69·84	—	—	—	4·09	73·93
Minneapolis U. Ry.	2·48	2·48	—	—	1·84	6·80
Total, all lines	3,291·80	29·40	8·10	8·10	450·39	3,787·79

† This statement does not include the Pacific extension under construction.

* Not including Neihart and Barker branches under construction, of which 42·60 miles main track and 2·23 miles side tracks are practically completed. The whole will be finished this season.

These lines (see map 4) reach from Spokane, Helena, Mont., and numerous points in Dakota and Minnesota to Minneapolis, St. Paul and Duluth, and traverse the same country as the Northern Pacific; with the latter they enter into a vigourous competition which, on account of the excessive capitalisation and higher operating expenditure of the Villard line, takes place under conditions decidedly favourable to the Great Northern.

The Great Northern Railway Company was founded in February, 1890, and has a capital of $20,000,000 5 p.c. preferred non-cumulative shares.[1] These shares were offered to the stockholders of the Manitoba, among whom Mr. Hill still figures prominently, at 50 per cent., on condition that they should in addition surrender to the Great Northern all securities owned by the St. P., M. and M., amounting to over $22,000,000 nominal. Part of these funds were given in trust for a collateral trust loan of $8,000,000 which the

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[1] There are no common shares; on the preferred the following dividends have been distributed: In November, 1890, 1 per cent.; in 1891, 4¾; in 1892, three quarterly dividends of 1¼ per cent. each (up to September).

Great Northern undertook to pay and cancel. The securities obtained from the Manitoba were deposited to secure the future homogeneity of the system. In addition the Great Northern issued in 1892 $15,000,000 collateral trust bonds which naturally do not figure in the subjoined statements for 1891. They were offered to holders of Great Northern shares at 72½, are redeemable at any time after 1893, and secured by deposit of £3,000,000 7 p.c. Pacific extension bonds of the St. P., Minn. and Manitoba. With this capitalisation the Great Northern operates all railroads enumerated above, with the results given in the statements below.

Revenue and Traffic Statements of the Great Northern Ry. Co. with Balance Sheet, for 1891, taken from the Annual Report.

Years.	Average mileage operated.	Passenger Traffic.			Freight Traffic.		
		Million passeng carried one mile.	Rate, cents.	Revenue, $	Million tons carried one mile.	Rate, cents.	Revenue. $
1882	926	54·3	2.92	1,587,180.27	189,892,911	2.51	4,773,005.72
1883	1,205	65·0	2.99	2,098,440.92	341,559,987	1.80	6,637,934.98
1884	1,378	59·4	3.11	1,862,580.59	340,347,879	1.79	6,114,459.51
1885	1,450	47·4	2.94	1,195,797.32	395,592,106	1.52	6,013,150.12
1886	1,471	58·4	2.45	1,431,497.80	374,985,532	1.49	5,587,294.49
1887	1,739	60·8	2.34	1,497,809.02	450,982,489	1.36	6,151,746.69
1888	2,307	73·8	2.46	1,823,261.80	559,795,058	1.30	7,277,333.46
1889	2,301	72·7	2.57	1,869,864.89	407,088,560	1.49	6,075,636.58
1890	2,783	74·0	2.42	1,808,392.97	554,752,349	1.27	7,971,787.71
1891	2,796	84·0	2.30	1,935,207.01	634,163,295	1.24	7,914,712.94

GREAT NORTHERN RAILROAD INCOME ACCOUNT, 1890-91.

	$
Net earnings	4,818,108
Interest on bonds owned	285,704
Dividends on stocks owned	23,036
Rentals of leased lines	185,705
Interest and exchange	118,586
Bills receivable	196,480
Other income	114,424
Total receipts	5,742,043
Paid rental of St. Paul, Minn. & Man. RR.	4,084,672
Dividends (3½ per cent.)	650,000
Miscellaneous	18,750
Total disbursements	4,753,422
Surplus	988,621

GENERAL BALANCE SHEET, JUNE 30, 1891.

	$	$
Assets—		
Cost of properties and securities acquired from St. Paul, Minneapolis & Manitoba Railway	19,250,000.00	
New equipment	65,359.82	
Additions and improvements	698,892.75	
		20,014,252.57
Other properties and securities owned		1,670,376.78
Expended for construction of Pacific line	8,431,272.15	
Interest on bonds	387,872.00	
	8,819,144.15	
Expended for construction of other lines	430,728.68	
		9,249,872.83
Current Assets—		
Cash in St. Paul office	645,841.14	
Cash in New York office	1,379,582.65	
Cash in London office	176,199.74	
Due from agents	158,909.84	
Due from United States Postal Department	7,430.63	
Due from United States Transportation	15,062.85	
Advanced charges	5,361.09	
Due from other companies and individuals	1,531,762.00	
		3,883,550.78
Material supply		557,925.77
		35,375,978.73
Liabilities—		
Capital stock		20,000,000.00
Proceeds from lands and real estate sold	98,750.61	
Proceeds from securities sold	751,250.00	
		850,000.61
Current Liabilities—		
Audited vouchers unpaid	705,257.94	
Unpaid pay rolls	375,302.66	
Inter. due under lease from St. P., M. & M. Ry.	912,198.00	
Divid. due under lease from St. P., M. & M. Ry.	382.50	
Interest accrued, not due	202,146.67	
Dividends accrued, not due	200,000.00	
Taxes, not due	58,011.25	
Unpaid dividends, G. N. Ry. capital stock	1,018.75	
Due to other companies and individuals	88,183.88	
	2,542,501.66	
Construction Liabilities—		
Audited vouchers unpaid	833,709.55	
Unpaid pay rolls	85,090.90	
Due to other companies and individuals	348,447.61	
		3,809,749.72
Other Liabilities—		
Montana Central Ry. current account	444,282.34	
Eastern Ry. of Minnesota current account	1,191.99	
Northern Steamship Co.	64,545.22	
Climax Coal Co.	373.76	
Sand Coulee Coal Co.	51,070.60	
		561,463.93
Proceeds Pacific extension bonds	8,005,599.40	
Interest received from Pacific extension funds	346,747.88	
		8,352,347.28
St. P., M. & M. Ry. accounts in liquidation		153,227.01
Fund for permanent improvements and renew		267,080.00
Balance		1,402,150.18
		35,375,978.73

The subjoined table, giving some details with regard to the finances of the smaller lines controlled by the Great Northern Company, and showing the amount of their bonds and stock owned by the G. N., is of interest:—

	Willmar and Sioux Falls RR.	*Duluth, Watertown and Pacific RR.*	*Montana Central Ry.*	*Eastern Ry. Co. of Minnesota.*	*Minneapolis Union Ry.*
Mileage	146·9	69·8	255 1	72 4	
	$	$	$		$
Capital stock	1,500,000	750,000	5,000,000	5,000,000	500,000
" " own. by G. N.	all	all	all	all	all
Bonded debt	2,625,000	1,375,000	7,500,000	4,738,000	2,700,000
" " own. by G. N.	all	all	500,000	200,000	none
Interest Charges	175,500	82,500	485,000	231,850	156,500
Gross earnings	338,735	30,441	1,234,490	836,444	298,848

CHAPTER XLVII.

THE NORTHERN PACIFIC.

The Northern Pacific Railroad was chartered by Act of Congress of July 2nd, 1864, and received a land grant of 12,800 acres for every mile built in States and twice that area for every mile completed in Territories. Construction begun in 1869, and the section from Duluth to Bismarck, Dak., was completed in 1873; in 1874 the company was unable to withstand the strain of the financial crisis and defaulted on the interest of its bonds, as a result of which its affairs were temporarily entrusted to the management of a receiver, until the property was sold in foreclosure in 1875 and purchased by a new company, organised in the interest of the bond and stock holders of the old. Like the construction of other Pacific roads that of the Northern Pacific offered an opportunity to unscrupulous men to commit frauds on a gigantic scale, with the result that upon lines with an aggregate length of less than 600 miles a capitalisation had been piled which reached the enormous dimension of $100,000,000 in shares and some $43,000,000 in bonds; if we mention that up to 1874 less than $22,000,000 had been actually spent upon construction — and even of this sum not every dollar procured a dollar's worth of property — some idea may be gained of the extraordinary manner in which the capital had been inflated. The reorganisation provided for the conversion of bonds and interest due thereon into preferred stock, and the bonds being redeemable out of the proceeds from sales of the company's lands, in addition to being acceptable in payment for such lands, the same rights were granted to the new preferred shares, of which a total of $49,000,000 was issued. These shares received a scrip dividend of 11 1/10 p.c. in 1883, and in conformity with the land sale clause have been reduced now to $36,545,250. Construction was resumed soon after the reorganisation, large forces of workmen being employed on both ends of the line, and in September, 1883, the new transcontinental route was opened. Since then a great number of local roads have been added to the system, either through purchase or lease, the increase of the company's mileage having been greatest since 1886; to-day the Northern Pacific embraces a total of 5,215 miles, briefly summarised as follows:—

Main line:	Ashland, Wis., to Portland, Ore. . . .	2,137·1	miles.
	Numerous branches.	1,162·3	"
	Leased lines	1,006·9	"
	Trackage	42·5	"
	Total reporting earnings	4,348·8	"
Add:	Wisconsin Central system.	867·0	"
	Total system	5,215·8	miles.

Since the Northern Pacific absorbed the Wisconsin Central (*q. v.*) in 1890 its lines have formed direct connections between Portland, Seattle and Tacoma on the one hand, and Duluth, St. Paul and Chicago on the other. In Chicago the company has sub-leased the excellent terminals of the Wisconsin Central, which are shared by the Chicago, St. Paul and Kansas City Railroad, and since 1891 by the Baltimore and Ohio Railroad, which works under close agreement with the Northern Pacific (p. 275). The Wisconsin Central connects this terminus with Ashland and St. Paul, meeting the Northern Pacific at both points. From Ashland a line runs to Duluth to meet the main road, which at Staples, some 150 miles West of that young and thriving city, absorbs the main line coming from Minneapolis and St. Paul, and connecting with the Wisconsin Central's St. Paul branch.

From Staples the road runs onward to the Pacific coast, but before arriving in Portland it meets three distinct sets of branches tapping as many different districts. The most notable of these feeders is the line to the Red River wheat district which goes as far as Winnipeg and other points in Manitoba, vigourously competing with the Great Northern in the Red River Valley and with the Canadian Pacific in Manitoba. The latter contemplates making reprisals by building a road which will establish communication between its main route and the "Soo" line at some point in Dakota, thus obtaining another direct connection with St. Paul and a double line to the East.

The Northern Pacific meets several other branches to which the renowned wheat lands of Dakota are tributary, and after having left the prairie follows the Upper Missouri valley which leads into Montana. The Eastern part of that State contains many vast cattle ranches which provide heavy freight, and in its centre we find a corner of the Yellowstone National Park, the 'nation's recreation ground,' which abounds with marvels of nature and fine scenery and attracts growing numbers of tourists, a fact which induced the Northern Pacific to project a branch leading into the Park. A hundred miles further we find the Montana mining towns where the Northern Pacific has a second set of branches collecting mineral freight and competing with the Great Northern and Union Pacific railroads. The road traverses Montana and ascends the Rocky Mountains to reach Idaho, having practically two lines crossing the 'Continental Divide,' a small gap formerly existing in one of these lines being now obliterated. In Washington the main line meets the third set of branches which tap the adjacent wheat region, and since last year the company has been carrying wheat from this district to Duluth. Portland being the natural outlet of the cereal produce of Washington, and the district being some 3,000 miles nearer to the Pacific Ocean than to the Atlantic coast, it seems somewhat mysterious how the Northern Pacific can carry this wheat at a profit; nevertheless during 1891 it brought some 6,000 cars to Duluth, surely one of the most miraculous performances ever witnessed in the railway world. From Washington the main line reaches Tacoma, on Puget Sound, where it meets a road running along that picturesque inlet and leading to Portland, the terminus of the system, where the company has built one of the best appointed hotels in America, 'The Portland,' which contains three hundred rooms.

This summary shows that the Northern Pacific has a vast field of operations, and that it chiefly depends upon agriculture, although products of forest and mine contribute no mean share of the total freight it carries. The country served being quite young and developing at a marvellous pace it follows that the business of the Northern Pacific must show an appreciable expansion, and such is indeed the case, the freight movement per mile of road having increased since 1886 to the extent of fully sixty per cent., mainly owing to the general development the country tributary to the system. This expansion of siness had, of course, a most ;' ffect upon earnings, vhich per mile of road kept on increasing until 1890, since hich year they have shown a serious decline. Nevertheless t total remains satisfactory, as is shown by the following table.

Traffic Statistics relating to the Northern Pacific.

Years end June 30	Average mileage operated.	Passenger.			Freight.		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Tons freight carried one mile.	Rate, — Cents.	Revenue, — $
1885	2,496	84·8	3.21	2,815,740	382·4	1.64	6,897,179
1886	2,718	90·6	3.02	2,807,218	481·9	1.67	8,189,615
1887	2,876	112·0	2.73	3,269,708	587·2	1.63	8,730,547
1888	3,219	159·5	2.70	4,577,886	704·8	1.45	10,426,245
1889	3,439	225·6	2.50	5,624,163	674·8	1.43	12,877,836
1890	3,565	231·4	2.55	6,167,702	1,065·9	1.40	15,600,330
1891	4,222	244·3	2.63	6,080,491	1,258·3	1.38	17,531,222
1892	4,348	222·8	2.70	6,298,285	1,327·8	1.40	17,363,772

In spite of this appreciable growth of traffic, however, the company is in a less favourable condition now than it was a few years ago. This is chiefly a result of the enormous additions to the funded debt, which has almost been doubled since 1886, although since then the mileage operated has barely increased sixty per cent., while rentals, guarantees to branch roads, etc., have also grown at an alarming pace. There can be no doubt that the additions to the system, on account of which the majority of the present heavy charges were incurred, contributed materially towards the expansion of business which is the only bright feature of the company's condition; nevertheless these advantages were paid for too dearly, a fact which is rendered manifest by a comparison of the accounts for the last few years.

Gross Earnings and net Earnings since re-organization, September, 29, 1875.

Year.	*Mileage.*	*Gross Earnings.* $	*Net Earnings.* $	*Ratio of Operating Expenses to Earnings p.c.*	*Gross Earnings per Road Mile.* $	*Net Earnings per Road Mile.* $
1875-6	555	739,745	283,718	61 64	1,332	511
1876-7	650	965,823	393,024	59·31	1,485	604
1877-8	650	1,193,381	562,079	52·90	1,835	864
*1878-9	722	1,167,261	348,305	70·16	1,616	482
1879-80	722	2,230,181	884 034	60 36	3,088	1,224
1880-1	749	2,994,519	1,198 965	59 97	3,998	1,600
1881-2	1,117	5,430,305	2 172 577	60·00	4,861	1,945
1882-3	1,503	7,855,450	2 902,392	63·05	5,226	1,932
1883-4	2,333	12,603,575	5,681 050	54 93	5 402	2,435
1884-5	2,496	11,234,149	5,280,349	53·00	4,501	2,115
1885-6	2,718	11,730,527	5,811,227	50·46	4,315	2,138
1886-7	2,876	12,789,448	5,884 831	53 99	4,447	2,046
1887-8	3,210	15,846,327	6,820,731	56·96	4,922	2,113
1888-9	3,439	19,707,467	7 843,926	60·20	5 687	2,280
1889-90	3,585	22,610,502	9,521 385	57 89	6 272	2,655
1890-1	4,222	25,151,544	10,211,141	59·40	5,941	2,418
1891-2	4,412	24,661,457	10,485,392	57·48	5,589	2,376

* 10 months only.

EARNINGS AND EXPENSES.

	1891–92.	1890–91.	1889–90.	1888–89.	1887–88
Average mileage operated	4,222	3,584	3,490	3,219	2,876
Earnings—	$	$	$	$	$
Freight	17,383,771	17,531,223	15,600,320	12,677,838	10,426,244
Passenger	6,296,285	6,680,491	6,167,702	5,824,163	4,577,896
Mail	981,401	939,830	451,781	443,638	390.152
Express			330,822	298,170	206 910
Miscellaneous			59,678	263,650	176,124
Total earnings	24,661,457	25,151,544	22,610,503	19,707,468	15 846,328
Operating expenses	14,176 365	14,940,402	13,089,137	11,863,541	9 025,596
Percentage	(57·48)	(59·40)	(57·89)	(60·20)	(56·96)
Net earnings	10,485,092	10,211,142	3,521,366	7,843,927	6,820,732

INCOME ACCOUNT.

	1891-2.	1890-1.	1889-90	1888-89.	1887-8.
	$	$	$	$	$
Net earnings—No. Pac.	10,485,029	10,211,142	9,521,366	7,843,927	6,820,732
Wis. Cent.	2,047,727	1,888,445	—	—	—
Total	12,532,819	12,099,587	9 521,366	7,843,927	6,820,731
Miscellaneous income	2,052,485	2,000,096	1,070,818	441,097	530,724
Available revenue	14 585,304	14,099,683	10,592,184	8,285,024	7,351,456
Fixed Charges—					
Rentals—					
Wisconsin Central	2,352,816	2,107,615	1,779	—	—
St. Paul & No. Pacific	1,090,761	1,024,058	1,045,646	709,163	644,977
Cœur d'Al. R'y & Nav.	—	—	—	135,007	—
Manitoba road	24,892	35,856	22,230	22,230	22,147
Minn. Union	18,046	46,516	46,251	46,005	44,623
Ch. St. P., Minn. & Omaha	—	1,921	2,140	2,140	2,140
Seattle & Northern	13,519	7,728	—	—	—
Tacoma Land Co.	—	—	—	6,000	—
Equipment	5,800	228,445	233,976	106,718	—
No. Pacific Terminal	44,894	15,022	72,000	72,000	68,472
Property at Winnepeg	700	467	—	—	—
Branch roads	951,346	1,014,680	1,533,008	1,060,739	861,075
Taxes, Northern Pacific	400,986	460,504	574,000	322,400	241,288
Do. Wisconsin Central	191,983	168,505	—	—	—
Funded debt interest	6,901,956	6,247,074	5,115,752	4,917,833	4,703,955
General interest, sinking funds and miscellaneous	1,823,236	830,429	284,902	343,309	224,09[illegible]
Total	13,750,417	12,188,930	8,532,293	7,803,546	6,823,[illegible]
Surplus	834,887	1,910,753	2,049,891	481,478	518,[illegible]

CONDENSED BALANCE SHEET, JU 0.

	1892.	1891.	1890.	1889.
	$	$	$	$
Assets—				
RR. equipment, lands, etc..	204.868,025	193 811,596	180,484,350	164,482,686
Contingent assets..........	21,483.597	29,866,679	26,884,285	22,208 731
Stocks and bonds owned....	11.118,418	7.268 051	4,976,252	3,231.382
Deferred land payments*...	5.932,289	5.069,890	5,581,244	5,119,147
Bills and accounts receivable	6.965,957	6,223,619	5 493,469	4.879,789
Chicago terminals..........	4,518,069	6,285,448	—	—
Materials, fuel, etc.	1,547,670	2,149,258	2,390,962	2.206,646
Cash on hand...............	2.176,754	2.406.811	5,321,556	1,953,894
Sinking funds, etc.	617,579	1,605,481	3,618,201	2.828.906
Suspense account..........	—	57,839	—	—
Total..................	256,358,938	254,744,672	234,721.000	206,891,118
Liabilities—				
Common Stock............	49,000,000	40,000,000	49,000,000	49,000,000
Preferred Stock............	37.172,578	36,983,324	36,656,613	36,564,250
Funded debt...............	82,508,000	108,470,276	124,306,000	128.122,000
Dividend certificates.......	935,500	749,500	645,500	610.500
Branch bonds guaranted...	20,981,000	22,304,000	15,166,000	15.349,000
Interest and rent. accrued.	2,323,300	2,253,016	2,667,069	2,653.141
Guar. interest and sink. fund on branch road bonds...	—	417,690	604,050	791.027
Dividends..................	—	376,713	374,298	7,967
Sinking funds........... ..	2,494,604	3,420,544	—	2,910,856
Sales of land covered by first mortgage	2,006,886	2,505,671	2.778,289	10,366.448
Bills and accounts payable.	5,909,963	6,759,958	†17,209,182	4.518,669
Miscellaneous.............	86,681	3,424	—	165,424
Profit and loss............	3,474,269	1,576,999	5,335,650	7.299,656
Total.........	206,891,181	234,721,006	254,744,672	256.358,938

* Applicable to retirement of preferred stock and bonds.

† This includes $6,285,447 bills receivable on account of Chicago terminals; they are offset by a similar amount of bills payable on same account.

Until last year everything went extremely well and the company was even in a position to resume, or at any rate did resume, the payment of dividends on the preferred stock, which had received no distributions since 1884. In 1890-91, with an available net revenue of $14,099,683, fixed charges amounted to $12,188,930, so that there was a surplus of $1,910,753 above first charges, amply sufficient for a 4 p.c. dividend on the preferred shares. During the year just terminated, however, the revenue in excess of first charges amounted to only $834,887; there was an increase in gross revenue approximating nearly half a million dollars, but first charges rose some $1,550,000, and as a result the quarterly dividends of 1 p.c. had to be discontinued in May last. What this enormous advance in first charges arises from has not thus far been revealed. The above income account shows that interest on debt rose $650,000, as was expected because of the increase in liabilities, but in addition 'general interest, sinking funds and miscellaneous' called for an expenditure of $1,823,000, nearly one million more than in 1890-91. The cause of this huge increase is not explained at the time of writing, although it will presumably be known when this volume is in the hands of the public; but it is safe to predict that some unpleasant surprise is in store. (*See Supplement.*)

The changes which have overtaken this company during the last few years have all been for the worse. A large floating debt has been contracted, partly in connection with the Chicago terminals, partly in consequence of the construction of hitherto unremunerative feeders; the Wisconsin Central has been leased upon terms involving a direct loss, and, last but not least, the competition of the Great Northern is more keenly felt in the same degree as that road approaches the Pacific coast. The over-capitalised N. P. cannot possibly compete with Mr. Hill's property, which, as we have seen before, derives its strength from a small capitalisation, technical perfection, and management of the highest order, three cardinal qualities which the Northern Pacific lacks. The effect which these differences have upon both companies is strikingly illustrated by the fact that since 1889-90 gross revenue per mile *fell* 11 p.c. on the Northern Pacific while on the rival line, which practically serves the same country, it is *increasing* fast. This contrast is so striking that it cannot be explained away even by the most liberal allowance that can be made for the decline of business sustained by the Pacific divisions of the N. P.; the real explanation is to be found in the respective rates of the two companies. In 1890-91 the average rate on the Northern Pacific was 1.38c., the proportion of operating expenditure 59·40 p.c.; hence this company cannot move a ton of freight one mile at less than the average cost of 0.820c. In the same year the Great Northern's average rate was 1.24c., its operating expenditure 50·22 p.c., its cost of moving one ton one mile 0.623c. This simply means that the Great Northern could still make a handsome profit if it were to cut rates to such extent as to be lower than the expenses per ton-mile on the Great Northern. This fact renders further remarks relating to the influence of Great Northern competition absolutely superfluous.

Like all Pacific roads the Northern Pacific owns very extensive tracts of land, the sale of which yields a constant revenue. The company received in all 46·8 million acres, of which over 39 millions are still in its possession. In 1890-91 366,000 acres were sold for $1,450,000, and payments received on account of lands sold amounted to $1,389,517, which sum served for redemption of the preferred stock. The immense extent of these lands is often pointed to as a hopeful feature of the Northern Pacific, but only by optimists; they represent a great value, but it will require time to realise these assets. Moreover, their presence has been discounted long since by the men who are responsible for the huge capital of $214,000,000, specified below and at least $120,000,000 greater than it ought to be.

Share Capital.

Common stock (par 100)		49,000,000
Preferred Stock (par 100) issued	$51,000,000	
Less cancelled by land sales	14,435,750	
		36,564,250
Total		85,564,250

Preferred stock must be accepted at par in payment for lands and can be redeemed by the proceeds from lands sold. (See above.)

Statement of Funded Debt, 30th. June, 1892.

Description.	Date.	Maturity.	Interest. Rate	Interest. Payable	Amount out-standing.
			p.c.		$
Missouri division bonds.....	1879	May 1, 1919	6	May and Nov.	2,967,000
Pend d'Oreille div. bonds...	1879	Sept. 1, 1919	6	Mar. and Sept.	
*General first mortg. bonds	1881	Jan. 1, 1921	6	Jan. and July.	43,926,000
*General second mtg. bonds	1883	Dec. 1, 1933	6	Apr. and Oct.	19,428,000
*Gen. third mrtg. bonds ..	1887	Dec. 1, 1937	6	June and Dec.	11,870 000
Dividend certif. (extended)[1].	1883	Jan. 1, 1907	6	Jan. and July.	610,500
*Consolidated mortg. bonds	1889	Dec. 1, 1989	5	Dec. and June.	47,411,000
Trust equipment............	1888	—	7	Quartrly fr. Jan.	3,000,000
* = Quoted in London. Total					126,732,500

1 Of these certificates, which originally amounted to $4 610,821, $1,567,500 were extended from 1st January, 1883, to 1st January, 1907, the company reserving the right to pay off the principal on any interest day after 1892 upon 30 days' notice, the balance being paid off as presented after 1st January, 1883 Holders of the $1,570,500 were given the option of conversion into third mortgage bonds at any time before 1st January, 1883.

Statement of Branch Road Bonds guaranteed by Northern Pacific RR. Company at 30th June, 1891.

Description.	Miles of road.	Date	Maturity.	Interest. Rate	Interest. Payable.	Amount out-standing.
				p.c.		$
James Valley River RR.	64·20	1886	Jan. 1, 1936	6	Jan. and July.	953,000
Spokane & Palouse RR.	111·52	1886	May 1, 1936	6	May and Nov.	1,766,000
Duluth & Manitoba RR..	110 00	1886	July 1, 1936	6	Jan. and July.	1,650,000
" " Dak. div.....................	96 74	1887	June 1, 1937	6	June and Dec.	1,451,000
Helena & Red Mount. RR.	17·25	1887	March 1, 1937	6	Mar and Sept.	400,000
Central Washington RR.	108·54	1888	Sept. 1, 1938	6	" "	1,750,000
N. P. & Montana RR	318·54	1888	" "	6	" "	5,381,000
Coeur d'Alene Ry. & Nav. Co....................	39 48	1888	Oct. 1, 1938	6	April and Oct.	1,238,000
Total...................	866·27					14,589,000

NOTE. At the time of going to press the Annual Report has just come to hand; extracts from it are given in the Supplement.

CHAPTER XLVIII.

THE DENVER AND RIO GRANDE RR.

The Denver and Rio Grande Railway Company, chartered in October, 1870, intended to construct a railroad from Denver to El Paso on the Rio Grande del Norte, the river forming the Northern boundary of Mexico.[1] This scheme was, however, abandoned, chiefly because an understanding with the Atchison was arrived at in 1880 according to which the company was to abstain from constructing lines South of Espanola, in the Northernmost part of New Mexico, while the Atchison undertook to build no railway into the Rockies; in consequence the Denver and Rio Grande became a Rocky Mountain route and a mineral road instead of a railroad connecting with Mexico. This compact was entered into to terminate the protracted squabbles between the two companies, chiefly arising from their eagerness to forestall each other. The Rocky Mountains have but few passes, usually availing themselves of the renowned canons which cut their way through the rocky soil; and these precipitous gorges being in many cases so narrow that they hardly offered room for one railroad, the two companies became involved in frequent disputes over the 'right of way.' The most curious circumstance connected with these quarrels was that while the attorneys were fighting in the Courts of Justice the workmen employed by the respective companies were attacking each other with pickaxe and shovel. Similar fights were of frequent occurrence in mountainous districts, and are occasionally heard of even to-day. When I was in Deadwood, Dak., in the autumn of 1891, the employés of the Burlington were reported to be engaged in petty warfare with those of the Northwestern, both companies being desirous of occupying a narrow pass in the Black Hills.

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[1] In those days Denver had but one connection with the East (via the Kansas Pacific, which now forms part of the Union Pacific), although the Denver Pacific was then projected, this being the present U. P. line from Denver to Cheyenne.

The Denver and Rio Grande and Atchison companies fought chiefly for the right of way in the canon of the Arkansas River, both the D. and R. G. and the Pueblo and Arkansas Valley RR., which was part of the Atchison system, being anxious to secure this narrow pass. To settle this dispute the D. and R. G. was leased to the Atchison for thirty years, the way being paved for an ultimate consolidation of the two systems; but after having been in operation for a short time the lease was suddenly terminated by the D. and R. G., which alleged that the Atchison did not carry out its obligations, and protracted litigation followed, ending with a decision of the United States Supreme Court in favour of the Denver road. The latter had been placed in the hands of a receiver while the case was *sub judice*,[1] and the conflict between the workmen was recommenced. After the judgment, however, the two companies arrived at the compromise mentioned above, which terminated all rivalry by confining each to a field in which it did not compete with the other. Until that time construction had progressed rather slowly, only four hundred miles of road being completed between 1872 and 1880, but under the direction of General W. J. Palmer it was pushed ahead as fast as possible, and by 1882 seven hundred more miles had been opened for traffic. These were mostly narrow gauge roads tapping the coal, lead, and silver mines of Colorado, but one of them ran from Gunnison to the Utah State Line where it connected with the Denver and Rio Grande Western, thereby establishing direct connection between Denver and Ogden, the terminus of the Central Pacific; and as the Burlington had meantime completed its Denver extension (p. 496) the Union Pacific lost its monopoly, a direct through route from Chicago to Ogden being created by the combination of the D. and R. G. Western, the D. and R. G. and the Chicago, Burlington and Quincy.

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[1] This was one of the rare instances where a receivership arose from litigation and not from insolvency.

Between 1879 and 1882 construction and extension progressed at a rapid pace, but by the latter date a number of complications had set in which checked further progress. As early as 1876 the company defaulted on its interest, but this was an event of no lasting consequence. The crisis of 1873 had rendered railroad stock well-nigh unsaleable, and therefore the company could find no buyers for its new bonds, with the result that funds which ought to have been applied to the payment of interest were absorbed in construction. The bondholders, however, were well aware of this fact, and consented to an arrangement providing for the postponement of the payment of three semi-annual interest coupons, a step which proved amply sufficient to avert a catastrophe. A few years later the company had no difficulty in finding buyers for its bonds, and the deferred coupons were paid in 1879. But the rapid construction of new lines which, needless to say, offered but very scanty returns, soon provoked another crisis of a more serious nature, which was aggravated by several other events. The D. and R. G. Western had been leased upon outrageous terms, a rental of 40 p.c. being paid to that road which was built by the parties who controlled the Rio Grande; and these people acting simultaneously as lessors and lessees, looked after their own interests in a manner hardly conducive to the welfare of D. and R. G. shareholders. The lease proved a heavy burden, and meantime there came bad years, and investors who a few years ago had seized with avidity all Denver securities offered to them now hesitated to do so again, the more because unfavourable statements were put into circulation; and as the company stood in urgent need of further funds to put its lines in working order, while its credit was as good as exhausted, it became clear that a crisis was impending. Moreover, vague rumours of extravagant, not to say dishonest, management shook confidence, and the report of four new directors (elected April, 1883) which affirmed these rumours, was not calculated to improve matters. These directors urged the necessity of far-reaching reforms, such as the discharge of superfluous general officers with excessive salaries, the introduction of rigid economy, etc., and as a result General W. J. Palmer, who had been president since the foundation of the company, resigned, and was succeeded by Mr. Lovejoy. After a few months that gentleman began to purge the staff of its most objectionable members, including Mr. David G. Dodge, the general manager; but the latter, while resigning his post as manager of the Rio Grande, refused to do so in his capacity as manager of the leased D. and R. G. Western, saying that that company had engaged him for life. This led to a law suit which was decided in favour of Mr. Dodge, who is still a prominent member of the management of the Rio Grande Western. Another quarrel resulted from the deposition of General Palmer, who was also president of the Colorado Coal and Iron Company, a corporation which was one of the best customers of the railway and enjoyed favourable tariffs, thanks to the dual position of its president. In this dispute, however, the new régime again proved victorious, the General being ousted from the Board of the coal company through the influence of the railway. In the meantime these constant squabbles with influential individuals and railways—there had also been disputes with the Union Pacific—had reacted upon the business of the road, which earned much less in 1884 than in the three preceding years, although it had a considerably larger mileage. As a result the company was compelled to default on its interest, and the road went into the hands of a receiver and was foreclosed in 1886, when it was reorganised as the Denver and Rio Grande Rail*road* Company in such manner that no further financial embarrassments need be apprehended.[1] Since the reorganisation very few extensions have been made, but a considerable proportion of the narrow gauge roads have been converted into standard gauge, and the efficiency of the entire system has been raised to a very satisfactory level, the cost being chiefly defrayed out of an improvement mortgage gradually issued since 1888. On June 30th, 1892, the company operated 1,687 miles of road, the average during the year terminating on that day being 1,579 miles, and now possesses an elaborate network of lines in Southwestern and Central Colorado, the greater part of which are narrow gauge and of local importance, while broad gauge roads run from Denver to Trinidad via Pueblo, and from Pueblo to the Utah State Line via Toledo and Leadville. The railroads are supplemented by coach routes and penetrate into all settlements of the Rocky Mountains, where they enjoyed an

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[1] The reorganisation of 1886 necessitated a rearrangement of its capitalisation in order to reduce fixed charges. Prior to this event the capital of the company consisted of $38,000,000 common stock ($50,000,000 authorised) nearly all of which had been issued gratis to bondholders; for example, in 1880 $5,000,000 stock were issued gratis to subscribers for an equal amount of bonds, which, moreover, were sold at 75 p.c. Apart from this stock there were outstanding:

7 p.c. 30 yr. first mortgage bonds	$6,382,500
7 " consol. mortgage bonds	19,740,500
5 " general ($50,000,000 auth.)	2,500,000
Car trust, etc.	$606,000
Total	$29,229,000

In the reorganisation the common stock was simply exchanged share for share, and $7,500,000 reserved to purchase the Rio Grande Western RR. An assessment of $6.00 was levied on common stock, holders of which received in consideration thereof $4,530,000 in preferred stock. Then $23,000,000 5 p.c. non-cumulative preferred stock was created, and distributed to stock and bondholders to compensate them for assessments, reduction of interest, arrears, etc., with the exception of $4,750,000 which was and still is reserved for the purchase of the Rio Grande Western. The 7 p.c. 30 yr. bonds were replaced by new sevens, but the other securities were all exchanged into 4 p.c. first consol. mortgage bonds, of which an issue of $42,000,000 was authorised. Of this total $6,382,000 are reserved to retire the old sevens, when they mature in 1900; $19,740,500 were given in exchange for the 7 p.c. consolidated bonds, dollar for dollar, which as compensation for the reduction of interest and the coupon that were overdue in June, 1886, received $13,818,550 of the new preferred stock. Further, $3,451,200 of 4 p.c. bonds, plus $1,030,400 of preferred stock, were given in exchange for car trust stock. $6,900,500 bonds were reserved for the purchase of the R. G. Western, failing which they were, together with the remainder of $5,525,800 to be retained in the treasury to be issued as future needs require, and subject to the consent of a majority of preferred stockholders. The bondholders obtained voting powers for five years, but their controlling powers expired in 1891 when they reverted entirely to the stockholders. No preferred stock can ever be issued without the consent of common shareholders.

absolute monopoly until the competition of the Colorado Midland and Union Pacific began to exercise its influence. The portion between Pueblo and Denver is used under trackage agreement by the Rock Island (see p. 521) and the section from Pueblo to Trinidad by the Texas line of the Union Pacific. Similarly a small part of the broad gauge line to Ogden, known as the Rio Grande Junction RR., is owned jointly by this company and the Colorado Midland.

The lines of the D. and R. G. are all situated in Colorado with the exception of that to Espanola, N. M., which connects with the Atchison for El Paso and Mexico, and the narrow gauge line which passes the New Mexican border on its 'tour round the circle.' The system practically consists of two parts, one of which has standard gauge while the other has not. The broad gauge lines are, of course, the most important; they run from Denver South to Pueblo, where they meet the Missouri Pacific and the Atchison, and further in the same direction to Trinidad, at which point junctions are formed with the Texas branch of the U. P. and the Atchison road to California and Mexico. From Pueblo to Grand Junction runs the main line to the West, connecting with the Rio Grande Junction and Rio Grande Western for Salt Lake City and Ogden. The narrow gauge lines traverse the Rocky Mountains in many directions, and penetrate into all places where picturesque sights attract tourists, or miners dig into the earth's bowels, or farmers cultivate the soil. There are hundreds of mines along the system, coal, lead, zinc, silver ores and stones being the heaviest products and therefore the most desirable freights; of the 1,904,000 tons carried in 1891-92, 839,000 were coal and 261,000 precious ore, while 325,000 consisted of other mineral produce. Leadville is the principal mining town in Colorado and has quite a large population—some people say as many as 20,000, and there are many other growing mining towns such as Salida, Rifle Creek, Silverton, Ironton, etc. In these townships life is more romantic than attractive; six-shooters seem an indispensable *article de toilette*, ceaseless references are made to fate in future life, and an immense amount of gambling in mining shares or at the poker table is indulged in. There is always a flourishing trade in claims and mines, and people display the greatest anxiety to sell their good things at a sacrifice to the foreign visitor. No sooner has the vigourous local press announced that 'Mr. So and So from London, England, stays at the ——' than roughly dressed individuals wait on him with tempting offers of mines. For if a person comes from London to Leadville it means, in the opinion of Leadvillers, that he represents an English syndicate, and the worthy population is anxious to assist him in getting the best equivalent for his money. Whenever a man in Leadville has some really bad mine, a mine which is no mine at all, with nothing inside that is worth digging out, with a bad title, and possibly with a lien or two on it, he hopes and prays to be able to sell it to somebody who represents an English syndicate. The English syndicate is therefore very popular there, and as long as a person is suspected of being connected with one he is safe. Nobody would 'pull his gun' on the representative of an English syndicate; he is too good a man to be spoiled for ever by a bullet.

Just as the rich mineral deposits of the Rocky Mountains attract the venturesome, so does the picturesque scenery bring tourists from every corner of the globe; and those who come will not be disappointed if they make the great trip 'round the circle' by the D. and R. G. The Rocky Mountains abound with spectacles of striking grandeur, some of which will for ever impress their image upon the mind; and over a distance of a thousand miles the tracks of this railway traverse a panorama surpassed by but few other sights in nature. Whether the line runs through the bottom of canons thousands of feet deep, or over passes more than 10,000 feet above sea level, or along peaks whose hoary heads are visible beyond the borders of the beautiful State, there is everywhere an endless variety of the most charming and imposing scenery. The Garden of the Gods near Manitou, Colorado Springs, the Royal Gorge, Currecanti Needles, Marshall Pass, the Grand Canon, the Black Canon, are but a few of hundreds of attractive features, each distinct and different from all others. The glowing colours of the rocks, their imposing height, their ever-changing hues and forms, and, above all, a fine blue sky and a radiant sunlight, render the mountain portion of the great mining State one of the most glorious regions of the earth.

These beautiful landscapes attract many travellers, and upon them and the mines the line depends chiefly for its revenue. Although there is some farming it need scarcely be said that there never can be any question of considerable agricultural development in the Rockies. Mining, however, will grow in importance as time goes on, and it seems that passenger traffic, which at present brings but one-third of the revenue, will increase at a greater ratio even than the freight business. When Americans better know how beautiful the crest of their continent really is, and when the West becomes more thickly settled, the entire region will be recognised as the Switzerland of the Western Hemisphere.

The extremely mountainous nature of the soil necessarily caused the D. and R. G. to be a very expensive railway. It abounds with grades, curves, and tunnels, and was a very difficult and therefore a costly piece of architecture. The road is capitalised at upwards of $100,000,000, and it is certain that the numerous natural obstacles the engineers had to surmount called for the expenditure of vast sums, although no mean portion of the company's capital was wasted by a bad and extravagant management.

Formerly the Denver and Rio Grande had absolute control of local traffic in the Western half of Colorado, but its monopoly has of late been intruded upon to a considerable extent. The Colorado Midland, which is owned by the Atchison, now connects Denver with Grand Junction, and the R. G. Western being independent of the D. and

R. G. the competition of the Midland is most acutely felt. In addition the Union Pacific has many branches to the mining centres in the Eastern part of the State, and the Atchison in the Southern, and as a result of this aggression of rival companies rates have declined and the traffic of the D. and R. G. has not grown as much as was anticipated. The road is in a difficult position, and its independence imparts weakness to it rather than strength; indeed, the assertion has been made that it never will do well until it is absorbed by some great and powerful system. Fortunately so many roads cast longing glances at it that the company will never be 'frozen out.' The Rock Island, Burlington, and Missouri Pacific could all do with it, and especially the Atchison. It has even been said that the latter contemplates the purchase of both the D. and R. G. and the R. G. W. President Moffat's resignation is believed to have been connected with the advances of the Atchison, and Messrs. Baring were reported to favour the plan, while it was alleged that stock was quietly bought up by the Atchison parties in Boston and London. If an amalgamation could be effected upon terms anything like equitable to Rio Grande shareholders, it would be very desirable, because an alliance with the great Southwestern system could only strengthen the road's position. It seems, however, that some people also believe in the possibility of an absorption of the D. and R. G. by the Burlington, which has always been desirous of gaining direct access to Ogden, and has even gone so far as to survey a line across the Rockies which will parallel a great part of the D. and R. G. main line to Grand Junction. The D. and R. G. on the other hand seems to have considered the advisability of extension towards San Francisco, and surveying parties have been sent out into the Sierra. California, as we shall see elsewhere, urgently needs a railroad which will relieve it from the monopoly of the Southern Pacific, which materially interferes with the growth of the Golden State, and especially with that of San Francisco; and the latter city recently offered a reward of $3,000,000 for the first railway running a train East in competition with the Central Pacific. This certainly offers some inducement, although it is but $4,000 a mile for a very expensive road. In course of time most Denver roads may extend towards the Pacific coast, especially if recent official reports to the effect that the greater part of the 'American desert,' through which all these roads have to run, is adaptable to agriculture if an efficient system of irrigation be provided, deserve credence. Apart from this, Utah is a very promising State, and Salt Lake City a city with a great future; and thus the great waste West of the Rockies may in due course be as well provided with railroads as Nebraska is now.

Since the reorganisation some more bonds have been issued, and in consequence the funded debt and share capital are now as follows:—

1. *Common stock ($45,000,000 authorised)	$38,000,000
2. *Preferred 5 p.c. non.-cum. ($25,000,000 authorised)	23,650,000
3. *First mortgage sinking fund, 7 p.c. gold	6,382,500
4. *Consolidated mortgage ($42,000,000 authorised 4 p.c. gold)	28,435,000
5. *Improvement mortgage ($5,000 per mile) 5 p.c. gold	8,050,000
Total capitalisation, June 30, 1892	$104,517,500
Interest on bonds	1,944,805

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* = Quoted in London.

1. The common stock has as yet received no dividend.

2. The preferred stock received in 1887 2½, in 1888 4, in 1889 nil, in 1890 2½, in 1891 2½ p.c. The August dividend of 1891 was passed; at the time the English Press generally ascribed this surprise to dishonest motives, but it appeared later that it had not been earned, and the surplus of previous years, not being represented by cash, was not available.

3. The sinking fund bonds are all due in 1900, and will be replaced by consolidated mortgage bonds reserved for the purpose.

4. Of the consolidated mortgage $6,382,500 are reserved to retire the sinking fund bonds when due, and $6,900,000 to acquire the Rio Grande Western or to build a new line to Ogden. The remainder may be issued to pay for new lines at the rate of $20,000 per mile. This mortgage covers the entire property, but of course is subject to the first mortgage.

5. The improvement bonds were issued at the rate of $5,000 a mile to provide funds for improvements, and rank after the two other descriptions.

The company's earnings for a series of years were as follows:—

Year.	*Average mileage operated.*	*Earnings.* $	*Expenses.* $	*Net earnings.* $	*Earnings per mile of road.* $	*Expenses per mile of road.* $	*Net earnings p. mile of road* $
1872	100	301,160	197,093	104,067	3,012	1,971	1,041
1873	155	392,656	197,124	195,532	2,533	1,272	1,201
1874	163	378,099	195,626	182,473	2,319	1,200	1,119
1875	163	363,095	208,067	155,028	2,227	1,276	951
1876	240	450,118	271,729	178,389	1,875	1,132	743
1877	293	773,322	416,161	357,160	2,639	1,420	1,219
1878	308	1,096,517	623,456	473,061	3,560	2,024	1,536
1879	337	903,622	594,746	308,875	2,681	1,765	916
1880	474	3,478,066	1,767,605	1,710,461	7,338	3,729	3,609
1881	786	6,244,780	3,620,030	2,624,750	7,945	4,606	3,339
*1882	1,100	6,404,979	3,821,124	2,583,855	5,823	3,474	2,349
*1883	1,258	6,528,709	3,940,985	2,587,724	5,190	3,133	2,057
*1884	1,317	5,552,103	3,758,529	1,793,573	4,216	2,854	1,362
1885	1,317	6,119,053	3,935,273	2,183,780	4,646	2,988	1,665
1886	1,317	6,738,077	4,227,416	2,510,660	5,116	3,210	1,906
1887	1,347	7,983,419	4,742,048	3,241,370	5,927	3,520	2,407
1888	1,463	7,668,654	5,104,681	2,563,973	5,242	3,489	1,753
1889	1,468	8,046,608	4,714,198	3,332,410	5,390	3,185	2,232
†1890	1,497	3,890,852	2,360,142	1,530,710	2,599	1,577	1,022
1890-91	1,579	8,850,920	5,510,308	3,340,616	5,605	3,490	2,115
1891-92	1,640	8,830,946	5,121,588	3,709,358	5,385	3,123	2,262

* = Excluding Utah.
† = First six months only.

Statement of Tons and Passengers Carried One Mile and Earnings per Ton and Passenger per Mile, 1872 to 1892, Inclusive.

Year.	*Average mileage operated.*	*Tons carried one mile.*	*Earnings per ton per mile. Cents.*	*Passengers carried one mile.*	*Earnings per pass. per mile. Cents.*
1872............	100	2,818,444	6.14	1,096,102	8.02
1873............	155	3,716,804	3.38	2,222,898	8.67
1874............	163	4,121,285	4.85	2,318,370	7.68
1875............	163	4,765,880	4.49	1,922,042	8.20
1876............	241	6,996,308	3.37	2,118,436	7.25
1877............	293	8,815,819	3.09	2,791,928	6.10
1881............	786	110,770,309	3.02	28,115,746	5.56
1882............	1,100	130,733,211	3.65	31,330,209	5.12
1883............	1,258	164,332,595	2.89	35,050,718	3.61
1884............	1,317	137,104,523	2.90	25,101,962	4.33
1885............	1,317	168,631,765	2.72	26,124,126	4.16
1886............	1,317	192,565,914	2.60	41,261,583	3.07
1887............	1,347	241,877,230	2.39	54,294,440	3.09
1888............	1,463	242,619,705	2.19	38,768,294	2.79
1889............	1,468	280,317,174	2.10	64,125,578	2.67
1890, Jan. to June, inc.	1,497	134,920,894	2.13	29,005,868	2.76
1890-91........	1,579	306,329,371	2.01	66,135,628	2.62
1891-92........	1,640		not stated in report.		

For the years 1878 to 1880, inclusive, the accounts were not preserved.

Earnings and Expenses for the three years ending June 30th, 1892.

	1891—92. $	1890—91. $	1889—90. $
Earnings—			
Freight	6,017,044.48	6,189,859.50	5,743,250.14
Passenger	1,865,232.36	1,735,527.65	1,714,113.67
Express, mails, miscellaneous and rents	948,669.71	927,053.10	905,771.84
Total earnings	8,830,946.57	8,850,920.34	8,363,135.65
Expenses—			
Maintenance of roadway	1,050,822.69	953,492.15	964,076.59
Maintenance of bridges and buildings	164,818.37	242,952.12	164,314.28
Maintenance of rolling stock	577,678.94	795,051.94	701,754.92
Conducting transportation	2,871,816.88	3,027,067.10	2,524,415.65
Contingent expen. (roadway and bridges)	150,394.51	167,544.62	146,702.65
General expenses	306,121.98	324,195.53	302,086.66
Total expenses	5,121,593.37	5,510,303.46	4,803,350.77
Percentage of earnings	58·00	62·26	57·43
Net earnings	3,709,353.20	3,340,616.88	3,559,784.88

INCOME ACCOUNT.

	1891—92. $	1890—91. $
Receipts—		
Net earnings	3,709,353	3,340,618
Other income	63,550	18,447
Total	3,772,903	3,359,065
Disbursements—		
Interest on bonds	1,988,675	1,944,805
Miscellaneous interest, discount and exchange	147,331	43,077
Taxes and insurance	362,127	319,192
Betterments and renewal fund	240,000	259,816
Delayed accounts	—	33,481
Dividends on preferred stock	—	591,250
Miscellaneous	122,659	60,758
Total	2,858,792	3,252,359
Surplus	914,111	106,735

BALANCE SHEET, JUNE 30.

	1892.	1891.	1890.
	$	$	$
Assets—			
Cost of road	100,929,313	100,983,453	98,327,099
Equipment	6,079,540	5,741,933	4,396,960
Materials and supplies	504,836	880,159	801,321
Agents and conductors	237,940	248,825	281,817
Bills receivable	390,050	470,298	1,558,287
Individuals and companies	411,981	724,141	451,250
Securities in treasury	849,580	567,786	136,000
Special renewal fund	277,450	—	—
Standard-gauge account	—	—	312,356
Miscellaneous accounts	162,816	136,691	127,232
Cash	427,557	760,019	807,772
Total assets	110,271,021	110,442,756	107,305,097
Liabilities—			
Capital stock, common	38,000,000	38,000,000	38,000,000
Capital stock, preferred	23,650,000	23,650,000	23,650,000
1st mortgage bonds, 7 per cent.	6,382,500	6,382,500	6,382,500
1st cons. mort. bonds, 4 per cent	28,435,000	28,433,000	27,165,000
Improv. mort. bonds, 5 per cent.	8,050,000	8,050,000	7,500,000
Betterment fund	307,450	183,196	60,000
Vouchers	592,332	627,074	935,717
Pay rolls, etc	401,904	655,142	621,533
Loans payable	715,000	695,200	—
Bills payable	141,952	147,304	—
Foreign roads	4,929	98,456	160,810
Accrued interest on bonds	108,004	108,003	—
Coupons	606,045	572,920	545,840
Dividends on preferred stock	—	—	354,780
Miscellaneous	219,255	140,725	38,810
Total liabilities	107,544,380	108,713,870	105,414,509
Balance to credit of profit and loss, being excess of assets over all liabilities	2,726,639	1,728,886	1,890,597
Total	110,271,021	110,442,756	107,305,097

In 1891-92 gross revenue was almost exactly the same as in the preceding year, but owing to smaller operating expenditure, the proportion of which fell not less than 4·26 p.c., net earnings were larger, and the available revenue exceeded that of 1890-91 by $428,000, and amounted to $3,772,903. First charges of all descriptions required $2,858,792, and consequently there was a surplus of $914,111, equal to well-nigh 4 p.c. on the preferred stock; no distribution was, however, announced. The balance sheet discloses a considerable decrease for the year in the floating debt, which may now be regarded as practically non-existent, being offset by current assets to all but its full amount. The president states in his report that:—

"The working stock of materials and supplies was drawn down from $880,139.45 to $504,835.64 without impairing the efficient operation of your property. The current liabilities were reduced during the year from $3,968,097.46 to $2,719,422.35, and whilst on June 30th, 1891, your current liabilities exceeded by $329,635.59 your current assets, on June 30th, 1892, these assets were $443,933.61 in excess of your current liabilities, the improved condition in these items alone being $773,569.20. With prosperity in general business, and favorable conditions as to traffic and rates, it is believed that your current liabilities will be reduced to a normal amount soon after the close of 1892."

The dividend on the preferred stock was discontinued in 1891, when it was not earned, as the accounts disclose. The following distributions have been made on this stock: 1887, 2½ p.c.; 1888, 4 p.c., of which 1½ p.c. was in scrip, subsequently redeemed in cash; 1889, nil; 1890, 2½ p.c.; February, 1891, 2½ p.c.; since nil.

THE RIO GRANDE WESTERN.

This road runs from Newcastle and Grand Junction in Colorado to Ogden in Utah, where it connects with the Central Pacific and Union Pacific systems. In Grand Junction the road, meets the D. and R. G. and Colorado Midland. From 1882 until 1886 it was leased to the former (see above) which is credited with the intention of resuming control, and works under close traffic agreement now. The company's capital consists of $10,000,000 common stock and $6,250,000 ($7,500,000 authorised) 5 p.c. non-cumulative preferred. The bonded debt comprises $14,000,000 4 p.c. gold mortgage bonds, issued in 1889 when the Denver and Rio Grande Western was reorganised. The preferred stock was increased in 1891 from $5,000,000, $1,250,000 being taken by the shareholders at 65, and the funds received thereby applied to the purchase of rolling stock and the improvement of terminal facilities. In 1892, common stock to the nominal amount of $2,500,000 was sold to common and preferred stockholders at 40, the proceeds paying for the securities of the Tintic Range Ry., completed in March, 1892. The acquisition of this line is expected to add largely to net earnings without any increase in fixed charges. Regular quarterly cash dividends of 1¼ p.c. have been paid on preferred stock since May, 1891. The following details relate to the company's finances.

	1891-92.	1890-91.	1889-90.
Mileage	522	404	369
	$	$	$
Gross earnings	2,643,924	2,346,130	1,622,234
Total net income	911,458	856,783	520,686
Deduct—			
Interest on bonds	580,000	535,500	393,500
Rental and miscellaneous	20,007	15,144	11,143
Dividends	312,398	255,369	—
Total	892,406	806,013	404,643
Surplus	19,051	50,770	116,043

THE RIO GRANDE SOUTHERN.

This new company is, like the Western, owned by people interested in the D. and R. G. Its line, 172 miles long, runs from Dallas to Durango, both points being situated on the D. and R. G. The Southern is a narrow gauge road, operated under close traffic agreement with the D. and R. G. It was opened for traffic in January, 1892, and its share capital and bonded debt each amount to $4,310,000, or $25,000 per mile of road. With regard to this line the last D. and R. G. report says:—

"The completion last December of the Rio Grande Southern Railroad between Durango and Ridgway (a station on your Ouray branch), a distance of 162 miles, with its branch to Telluride, ten miles, has afforded direct communication by rail with productive portions of Southwestern Colorado, heretofore inaccessible except by trail and wagon road. It is confidently believed that much additional traffic and revenue will in time accrue to your company from the development of the territory referred to, which is rich in mineral resources and capable of supporting a large population."

CHAPTER XLIX.

THE SOUTHERN PACIFIC SYSTEM.

(The Central Pacific, etc.)

The Southern Pacific is one of the greatest systems of the country, and its gross earnings are second only to those of the Pennsylvania, although there are several companies which operate a greater mileage. The main line, stretching from Portland in Oregon to New Orleans in Louisiana, a distance of over 3,000 miles, is by far the longest to be found in the United States.

The system is entirely controlled by the Southern Pacific *Company*, which operates 6,461 miles of railroad and various lines of steamers plying between New York and New Orleans and other Gulf ports. Of the railroad, 4,332 miles are controlled through ownership of stock, and known as proprietary lines; the remainder are nominally leased, but in reality also owned to a great extent, and the entire system is operated as a homogeneous whole. The following is a summary of its various component parts, which are divided into a 'Pacific System' and an 'Atlantic System.

PACIFIC SYSTEM.

Proprietary:	*Miles.*	
Southern Pacific RR. of California	1,474·5	
Southern Pacific RR. of Arizona	388·1	
Southern Pacific RR. of New Mexico . . .	171·0	
South Pacific Coast Ry.	104·0	
Northern Ry..	390·4	
Northern California Ry.	53·6	—2,581·7

Leased Lines:	*Miles.*	
Central Pacific RR.	1,360·8	
Oregon and California RR	567·5	
Oregonian RR.	57·5	
Portland and Willamette Valley RR.	28·5	
California Pacific RR.	115·4—	2,129·7
Total Pacific System		4,710·9

ATLANTIC SYSTEM.

Proprietary Lines:		
Morgan's Louisiana and Texas RR.	283·5	
Louisiana Western RR.	112·0	
Texas and New Orleans RR.	207·7	
Galveston, Harrisburg and San Antonio Ry.	936·9	
Gulf, Western Texas and Pacific Ry.	111·2	
New York, Texas and Mexican Ry.	91·0	
Texas Transportation Co.	8·0	
Total Atlantic System		1,750·4
Total Proprietary Lines		4,332·0
Total Leased Lines		2,129·2
Total all Lines Railroad		6,461·3

The Southern Pacific *Company* was incorporated in 1884 under the laws of Kentucky, the charter being applied for in that distant State not only to avoid the payment of taxes, but also to prevent California from repealing the charter, a possibility which might arise in the event of a hostile Legislature being elected. The company has a share capital of $118,858,170 ($150,000,000 being authorised) and a funded debt of $1,900,000 secured by its steamers. The share capital is almost entirely owned by Mr. Huntingdon, Senator Stanford, and a few other 'S. P. bosses' who have monopolised railroad business in California ever since the early days of the Central Pacific, and acquired almost fabulous wealth thereby.

The Southern Pacific system practically consists of three sections—the lines to Portland in Oregon, to Ogden in Utah, and to Los Angeles, El Paso, New Orleans, etc.—which meet in Sacramento and San Francisco, or rather in Oakland, opposite the city on the Golden Gate; the latter lies on a peninsula, and is therefore connected with the Oakland terminus by means of huge and well-equipped ferryboats running across the bay to and from Market-street. In addition there are numerous branches, mostly in California and Texas, and in the 'Golden State' itself the company has absolutely no rival except the Atchison which, however, confines itself to the Southern part of the second largest member of the Union. This monopoly has been very injurious to the beautiful State, and had the latter possessed the advantage of keen railroad competition there can be no doubt that she would be still more populous and prosperous than she is to-day. As matters stand, California is better developed than any State West of the Missouri, for when the gold fever abated the population settled down to regular work, and it was soon discovered that soil and climate offered possibilities which hardly found a parallel in any other State; this fact attracted a steady flow of immigrants who succeeded in accumulating wealth in spite of the enormous distance from the world's great markets and the monopoly and tyranny of the despised 'S. P.' This company not only has absolute control of the railroads, but also 'runs' the entire State, which it represents in Washington through Senator Stanford, and 'bosses' in Sacramento by means of its nominees and its influence. Having no competitor, the S. P. is without inducement to pay much regard to the demands of the public, and consequently maintains an indifferent service and charges arbitrary rates. For example, the price of a ticket from Portland to San Francisco, a distance of 600 miles, is $37.50; were there competition certainly not more than half that sum would be charged. Further, high freight rates intensify the disadvantages arising from the enormous distances separating the country from the great markets, and place a check upon material progress, no matter how highly advanced a stage this may have reached. It is, for instance, a curious fact, which I can state on the authority of a Chicago fruit merchant, that owing to the high transportation charges Californian grapes cannot compete East of the Mississippi with those brought all the way from Spain, while oranges and other fruits are less marketable than they would be with lower rates. As a result nearly all fruit is dried or canned, and shipped round Cape Horn to New York, whence it is sent by rail to inland points, the journey of 15,000 miles being frequently much cheaper than the one of 2,400. Under such circumstances it can surprise nobody that the Huntingdon-Stanford clique is not held in high favour, although the fact is sometimes overlooked that the high rates do not arise solely from lack of competition, but also from the inferior condition of the road and the dearth of fuel and labour in the Far West. However, in spite of these redeeming points there is abundant reason for just complaint; but unfortunately the population can do little more than object. It is true that some efforts have been made to secure relief, but as yet these have proved inadequate. For example, the town of San Francisco has offered a subsidy of $3,000,000 to the first railway which competes with the Central Pacific (see p. 685) but this inducement is rather small, and unfortunately the State of California is not likely to do anything in the matter, being 'run' entirely by the 'S. P. clique.' A few competing lines would assuredly break the back of this influential group of capitalists, but the millions of people seem powerless against the millions of the famous men who built the Central and Southern Pacific railroads.

Naturally the lines of the S. P. offer a great variety of distinguishing features, the most beautiful section being the Shasta Route, otherwise the road connecting Portland with Sacramento. This line derives its name from snowclad Mount Shasta, which elevates its hoary head to an altitude of 14,500ft. above the sea level, towering in sublime majesty over the other mountains of the Sierra Nevada. Twenty hours after leaving Portland this grand double peak comes into sight, and remains visible during a great part of the day; for just at its base the railway begins to ascend another high mountain, and the train, broken up into two parts, slowly runs over one of the steepest grades in all America. The entire route from Portland to San Francisco is one of the most remarkable achievements of engineering skill; but shortly after entering California, where we reach the tracks of the Central Pacific, it becomes marvellous. At a given point we look down from the top of a mountain into a valley 4,000 feet deep and see three different portions of the line below—the tracks we have just passed on our way towards the clouds; and when we begin to descend we meet the Sacramento River, whose course we follow through one of the most enchanting landscapes of the United States. A little beyond Sacramento, the capital of California, we pass on to the tracks of another part of the Southern Pacific system, and soon the train is bodily transferred to the largest ferry-boat in the world, upon which we cross a broad arm of San Francisco Bay. This gigantic craft is provided with four tracks, and will hold 26 Pullman cars, while it possesses two huge sets of engines. A little later we reach Oakland, opposite San Francisco, where we leave the train to get to the metropolis of the Pacific coast by means of another fine ferry-boat, which lands us at the foot of Market-street.

San Francisco, situated on a hilly peninsula, is no doubt the most attractive city in the entire country, and is chiefly known as the most important harbour on the Pacific coast, although Portland, which is backed by the navigable Columbia River, and moreover has the advantage of competing railroads, strives to supersede it, and with no small prospect of success. If Portland ever takes the wind out of the sails of San Francisco it will be entirely the fault of the 'S. P.' monopoly, which, by the way, is also responsible for the successful competition of Vancouver, B. C., in the Eastern trade; but then the Canadian Pacific follows an enlightened policy, and the S. P. does not. Nevertheless, San Francisco has a population of 325,000 and a very considerable trade both with foreign countries and inland points. A million tons of wheat are shipped annually, and the value of imports and exports is estimated at $150,000,000. There is a Mint, and a Stock Exchange chiefly dealing in mining shares.

The journey from Oakland South brings us to warmer climes. Even in San Francisco snow falls only about once in twenty years, and if one comes from Portland in midwinter and intends to go South he may safely send on his overcoat by Wells Fargo and Company. This corporation still controls the 'express' business "out West" which it inaugurated some forty years ago, when the old firm sent their first armed mail coaches across the Rockies and the Sierras. The next town of importance which we reach is Los Angeles, some four hundred miles South of 'Frisco.' In the East this distance would be covered in eight or nine hours, but here it takes twenty-four. The S. P. trains have no competitors, and hence pay little regard to speed; even 'express' trains take things easy, and one wonders what the local service is like. On our way South we have an opportunity of visiting the Yosemite valley, one of the most imposing sights in the Pacific mountain ranges, and the marvellous trees of the Mariposa, which are so large that a tunnel has been cut through one of them into which a full-laden hay waggon can pass comfortably. The railroad follows the fertile and highly cultivated San Joaquin valley towards El Pueblo de la Reina de Los Angelos,—the City of the Queen of Angels — the full name of the sunniest town the States can boast of, Los Angelos.

This young city is the commercial centre of Southern California and its fruit business, and a town of growing importance. It is the meeting point of several lines of the S. P. and the centre of the Southern California RR. system, controlled by the Atchison, which gave the town its second connection with the East. The present population numbers about 70,000, and after some very dull years, which succeeded the famous boom of 1887—9, business is reviving again. I may mention that next to San Francisco, Boston and Washington, Los Angelos is generally considered the prettiest town in the States, a fact chiefly due to the peculiar charm it derives from the semi-tropical vegetation which makes Southern California a paradise in mid-winter. In summer the entire country is very hot and dusty, though even then the climate is salubrious.

The surrounding country is still more charming than Los Angelos. Not only has it been blessed with a wonderful climate, with protection from winter winds by the Sierras, and with immunity from excessive summer heat because of the breezes from the Pacific, but also with a fertility such as but few regions can boast of. A wheat crop of 32 bushels to the acre is but an average one; and oranges, lemons, almonds, figs, grapes, olives, raisins and a dozen other kinds of fruit grow in matchless profusion. Only one thing is wanting, and that is water; but in most places its absence is but a blessing in disguise, the required moisture being provided by excellent irrigation systems, so that the soil has neither more nor less water than it requires. Encouraged by wise legislation, irrigation is applied on a vast and growing scale throughout Southern California; near Riverside especially it has reached a high stage of perfection. In Redlands, for instance, there is a water company with a capital of $4,000,000 (paying regular 12 per cent. dividends) which is forming a gigantic artificial lake already holding I know not how many billion gallons of water. Agriculture is developing in a marvellous manner, notably fruit farming. There are at present 20,000,000 deciduous fruit trees in the State, producing an average crop valued at $3 per tree; but within ten years these trees, without making any allowance for additions, will annually produce at least $10 worth of fruit each. Already

4,000 car loads of oranges and lemons are shipped East every year, but, as we have said before, low rates would vastly increase these exports. The raisin crop also grows larger year by year. 1889—says a U. S. Census Report—produced 2,200,000 boxes of 20lb. each; in 1886 the crop was not larger than 5,000 boxes, and within five years 20,000,000 boxes will be exported. Besides oranges, lemons and raisins huge quantities of peaches are raised, and viniculture makes such progress that California wines are rapidly supplanting French brands throughout America. Although most fruits are dried, canned or otherwise preserved, and shipped by vessel, goodly quantities go by the two competing railways, and if these could see their way to lower their tariffs they could rely upon receiving enormous volumes of freight which now leave by vessel.

Between Los Angelos and El Paso, where connection is made with the Mexican Central, the Southern Pacific traverses the Yuma desert, which offers little or no business. East of El Paso the railway runs through Texas, crossing that State in an almost straight line from West to East, a distance of over a thousand miles. In the Eastern portion of Texas, where much cotton is grown, the company has several branches, the Houston and Texas Central, briefly mentioned on p. 554, being controlled by this railroad. There is also a branch to Galveston, where connection is made with the S. P. steamship lines for New Orleans, New York, etc., and from Texas the road runs to New Orleans through the Louisiana lowlands with their cotton, rice and sugar plantations. In addition to the long main line from Portland to the 'Crescent City' and its numerous branches there is, of course, the Central Pacific, to which we return below.

Subjoined are statements showing the earnings of the S. P. company, although owing to the shares and bonds being held by a few capitalists, little importance attaches to its financial affairs.

Southern Pacific System.

EARNINGS AND EXPENSES.	1891. *6,461·26 Miles of Railroad; also Steamship Lines.*	1890. *6,225·65 Miles of Railroad; also Steamship Lines.*	1889. *6,052·47 Miles of Railroad; also Steamship Lines.*
Earnings—	$	$	$
Passengers	15,528,721	14,507,341	14,698,782
Freight	30,951,591	29,306,226	27,219,532
Mail, express, etc.*	3,969,502	4,388,433	4,429,894
Total earnings	50,449,814	48,202,000	46,342,208
Expenses—	$	$	$
Maintenance of way and structures	6,741,190	7,563,376	6,799,370
Maintenance of equipment	4,285,658	3,840,368	3,792,484
Transportation*	17,575,683	16,942,118	16,762,125
General	2,561,081	2,661,867	2,950,387
Total expenses	31,163,612	31,007,729	30,304,366
Net earnings	19,286,202	17,194,271	16,038,842

*Includes steamships.

EARNINGS, EXPENSES, RENTALS AND TAXES.	$	$	$
Net earnings	19,286,202	17,194,265	16,038,842
Rentals received	564,193	509,516	521,952
Total	19,850,395	17,703,781	16,560,794
Rentals paid	1,220,782	1,058,415	913,451
Taxes	1,261,984	1,234,298	1,218,510
Total	2,482,766	2,292,713	2,131,961
Net receipts	17,367,629	15,411,068	14,428,833

INCOME ACCOUNT.	1891.	1890.	1889.
Receipts—	$	$	$
Net as above	17,367,629	15,411,068	14,428,833
Other income	—	11,636	487,182
Total receipts	17,367,629	15,422,704	14,916,015
Disbursements—			
Interest on bonded debt	10,629,900	10,259,820	10,472,898
Interest on floating debt (net)	16,718	315,022	445,157
Betterments and additions	*259,570	*265,535	*445,504
Central Pacific RR. sinking funds	275,000	275,000	275,000
Cent. Pac. RR. sink'g funds in U. S. Treasury	613,516	583,950	458,243
Net profit Central Pacific lines	2,144,428	838,610	1,085,419
Balance to make guar. rental Cent. Pacific	—	461,389	394,581
Miscellaneous	64,541	41,410	190,058
Total disbursements	14,003,673	13,040,827	13,567,839
Surplus before division of profits to proprietary companies	3,363,956	2,381,877	1,348,176

* In 1889 the amount spent for betterments was $2,454,134; in 1890, $1,862,306; in 1891, $2,275,028; repayable by leased lines in 1889, $2,008,630; in 1890, $1,596,771; in 1891, $2,015,458—making the net amounts as here given.

Cost of Road, Assets and Liabilities of Proprietary Companies. 1891.

	$
Assets—	
Cost of road and franchises	289,996,380.96
Betterments and additions since acquisition	11,272,667.10
State of Texas subsidy lands	2,234,081.78
Other lands in Texas	255,595.90
Stocks in proprietary companies	751,963.96
Stocks in other companies	98,900.00
Land contracts	2,679,415.65
Cash	132,556.07
Bills receivable	190,561.76
Sinking funds	1,588,411.70
Individuals and companies	69,855.66
Unadjusted accounts	136,914.08
Southern Pac. RR. of California 5 p.c. bonds in treasury	878,000.00
Equipment unapplied	257,262.21
Total	310,718,444.92
Liabilities—	
Mortgage bonds	119,690,716.08
State of Texas school debt	465,735.82
Capital stock	164,717,227.00
Land trustees	365,524.80
Sinking funds uninvested	113,269.75
Southern Pacific Company	1,317,375.79
Pacific Improvement Company	429,959.37
Unpaid coupons	30,899.17
Interest accrued on coupons maturing in 1892	349,756.67
Unadjusted accounts	234,177.60
Balance from income account	22,973,809.87
Total	310,718,444.92

Of the above $164,717,227 capital stock, the Southern Pacific Company owns $162,382,750, and $1,419,800 is owned by the proprietary companies.

Comparing the totals with those for the year 1890, there has been an increase in the bonded liabilities of $4,505,500, of which $3,514,000 is for Southern Pacific Railroad of California 5 per cent. bonds, less $461,500 6 per cent. bonds, redeemed from the proceeds of land sales and other income, and $1,453,000 for Gulf, Western Texas & Pacific Railway 5 per cent. bonds, with a decrease in current liabilities of $1,989,757.30, and an increase in cash, bonds and other available assets of $1,191,633.48. There have been charged off worthless accounts amounting to $1,245,939.98, which consist principally of the claims of the Morgan's Louisiana & Texas Railroad & Steamship Company against the Houston & Texas Central Railway Co. and the Texas Central Railroad Company.

Income Account, Southern Pacific Company, December 31st, 1891.

		$
Disbursements—		
Loss in operation of—		
Northern California Railway		50,795.70
Marysville Steamers		18,150.69
Oregonian Railroad		17,431.36
Adjustment of balance due Central Pacific RR. Co. under Thurman Act requirements in the years 1887, 1888 and 1890		70,330.02
Balance to credit of general account—		
General income	$2,899,167.68	
Income for sinking fund	75,000 00	
		2,974,167.68
Total		3,130,874.08
Receipts—		
Balance from last year		2,407,280.68
Profits under omnibus lease.		241,950.98
Profits from operation of Northern Railway		68,505.76
Profits from operation of South Pacific Coast Railway		124,816 73
Profits from operation of California Pacific Railroad.		113,069.95
Profits from operation of steamships		54,100.00
Contribution to sinking fund for steamship bonds.		75,000.00
Dividends on stock owned		12,720.00
Accrued interest on bonds owned.		6,054.17
Rentals from real estate.		2,400 00
Interest and exchange.		20,014 98
Miscellaneous.		1.00
Total		3,130,874.08

Assets and Liabilities, Southern Pacific Company, Dec. 31st, 1891.

	$	$
Assets—		
Stocks in proprietary companies	—	117,592,637.35
Stocks in other companies	914,458.67	
Bonds in proprietary companies	1,870,578.39	
Steamships and other property	2,030,346.63	
Cash	3,371,551.04	
Agents and conductors	1,080,516 36	
United States Government mail transportation	2,345,158 50	
Sundry individuals and companies.	1,942,607 67	
Pacific Improvement Company	328,014.64	
Proprietary companies	1,358,541.00	
New construction proprietary companies.	198,274.11	
New construction other companies	797,481.32	
H. & T. C. Railway reorganization.	2,308,384 77	
H. & T. C. RR. advances	194,287 94	
Unadjusted accounts.	825,644.66	
Stock of supplies.	5,215,999.33	23,953,775.43
Total	—	141,546,412.78
Liabilities—		
Capital stock	—	118,858,170.00
Steamship bonds due 1911	—	1,900,000.00
Loans and bills payable	1,494,611.16	
Vouchers and pay rolls.	4,717,180.09	
Individuals and companies.	1,873,042.17	
Leased companies.	3,743,930.45	
Coupons due and unpaid	132,686.60	
Accrued interest to Dec. 31st, due in 1892	1,112,119 66	
Coupons maturing January 1, 1892	2,476,680 00	
Unadjusted accounts	862,591.17	
Insurance funds.	421,356 95	
Renewal funds.	493,128 73	
Taxes unpaid	691,420.00	
Taxes in suspense.	312,427.10	17,814,075 08
Balance from income account	—	2,974,167 68
Total	—	141,546,412 78

The 'proprietary lines,' specified in the preceding statement are operated under the so-called omnibus lease, an agreement which provides for the payment by the Southern Pacific Company of all costs of maintenance, equipment and operating, and of all interest on bonds. Earnings above this are pooled, and of these the S. P. retains 10 p.c., the residue being divided according to the length of each part; the Southern Pacific RR. of California receives 44 p.c. of the total surplus, the S. P. of Arizona 10, the S. P. of New Mexico 6, the Louisiana and Western RR. 7, and the Morgan's Louisiana and Texas RR. and S. L. company 28 p.c. The lines in Texas are operated and report their earnings separately, in conformity with the laws passed by the Legislature of that State. The division of earnings in the manner stated above is a mere formality, all stock of the "omnibus" companies being held by the S. P. Company, with the exception of some $900,000 out of a total of $164,717,227. This stock was exchanged for S. P. shares in the following ratio: Morgan's system received $450 S. P. for $100 of its own, Texas and New Orleans $150, Louisiana Western and Northern RR. Companies $100, and the remaining four $60. In addition to the stock of these companies the S. P. owns an interest in the Mexican National and, as stated above, it also controls the Houston and Texas Central RR. the bonds of which it guarantees. Subjoined are a few details relating to the proprietary lines.

The five leased lines, specified above, are operated under the following stipulations: The *California Pacific*, formerly leased to the Central Pacific, for $600,000 per annum. The company has fixed charges to the amount of but $329,000 per annum, and in consequence surpluses to the amount of $1,057,000 had accumulated up to Dec., 1891. There are $12,000,000 common shares outstanding, which have received no dividend yet, and are mostly owned by Messrs. Huntingdon, Rockefeller, *c. s.* The *Oregonian RR.* is a small company owning local lines near Portland, and leased to the S. P. Co., The *Oregon and Cala. RR.* is the line connecting Portland with the Northern boundary of Oregon, where it meets the Central Pacific. The road is leased to the Southern Pacific Co., which guarantees the interest on bonds and will pay 7 p.c. on preferred stock if earned and 6 p.c. on common; all earnings remaining after payment of such dividends may be retained by the lessee.

THE CENTRAL PACIFIC.

The Central Pacific RR. Company was chartered by Act of Congress dated July 2nd, 1862, simultaneously with the Union Pacific and Western Pacific, these three companies having together projected the railroad which was to connect Omaha with Oakland, opposite San Francisco. The section between Oakland and Sacramento was to be built by the Western Pacific, that between Omaha and Ogden by the Union Pacific, and the connecting link between the two by the Central Pacific, which, as the reader has no doubt inferred from the above, was thus named because it was to be the central part of the transcontinental line.

When dealing with the Union Pacific we spoke at some length of the circumstances which caused the first Pacific road to be built and to become endowed by the Federal Government, and it is not necessary to tell the same tale over again at this juncture, a reference to pp. 625—28 being sufficient. Like the Union Pacific, the Central was to receive considerable land grants and an advance repayable in thirty years and secured by a first lien upon the road; and like its Ogden connection it was to carry mails and troops at the usual rates, and to pay all moneys due therefor from the Government, as well as 5 p.c. of its net earnings, into a sinking fund out of which the debt was to be redeemed. This arrangement, as we know, was modified by the Government, which agreed to make its lien rank after a first mortgage, and consented to a reduction of the sums to be paid into the sinking funds in such manner that but half of the amounts due by the Government for transportation, etc., should be paid into these funds instead of the whole. This agreement being variously interpreted, squabbles ensued, and these caused the passing of the Thurman Act, of which we have given details on p. 680. This Act, however, by no means settled the disputes. First it was assailed as illegal, and after being upheld by the Courts it was deliberately misconstrued, and thus relations between debtor and creditor were strained from the outset; they remain unfriendly until the present day, although no longer in such a pronounced degree as before, for since the Thurman Act was passed several concessions have been made on both sides.

In 1880 the Government took exception to a dividend being paid by the Central Pacific, this objection being founded upon a misunderstanding. The C. P. had charged betterments effected in preceding years to income account for 1880, and hence there was an apparent deficit instead of a surplus, but the matter being explained the Government withdrew its protestation. Then the Government invested the sinking fund moneys in U. S. bonds, which hardly yielded 3 p.c. net, while it charged the company 6 p.c. for its advance. The company rightly protested against this, and although the Secretary of the Treasury promised relief as early as 1883 the matter is still pending. We return below to this debt question.

The sponsors of the Central Pacific started their venture with more assurance than money. Messrs. Crocker, Huntingdon and Stanford had between them a fortune of $195,000; but with this small sum they started a work estimated to cost $58,000,000, and which says more, carried it out and acquired a huge fortune over the transaction. They succeeded in obtaining loans from Sacramento and Placer Counties to the amount of $550,000, and with this addition to their own funds they built enough road to draw $848,000 from the U. S. Treasury as the first subsidy, and by repeating the process they gradually completed the road, which was opened in 1869, inducing the Government to waive its first mortgage rights so that they could issue nine series of first mortgage bonds to the total amount of $26·9 millions. With their $195,900 as a nucleus, these enterprising men succeeded in creating a total capitalisation of $139,000,000, most of which of course is water; the Pacific Railway Commission, which took a sanguine view, asserts in its report to Congress that the actual cost of the C. P. was but $58,000,000, and of the U. P. $50,720,000. In the construction of the road all the disreputable practices at that time in vogue were resorted to, and the men who were 'in it' laid the foundation of fortunes which now rank among the largest of the world; for naturally no small proportion of the 'water' went into the pockets of the constructors, who made themselves a present of nearly the entire share capital and, as will be seen below, displayed great skill in getting rid of these shares at a very good price.

Soon after its incorporation the company amalgamated with the Western Pacific, which was chartered one year later than the Central Pacific, namely in 1862; and in 1870 it absorbed the Oregon and California, the San Francisco, Oakland and Alameda, and the San Joaquin Valley Railroads, the total length of all lines being then 1,215 miles. In addition to these it leased the Southern Pacific of California, the Southern Pacific of Arizona, the Southern Pacific of New Mexico, and several smaller systems controlled by the old clique and having an aggregate length of 1,229 miles. Thus the Central Pacific obtained a system of 2,444 miles, comprising the greater part of that which to-day is the Southern Pacific of California, and gained control of all lines in California as well as of the second transcontinental route; this last had in the meantime been formed by the Southern Pacific lines running from El Paso (where connection was made with the Atchison) to the Joaquin Valley RR. of the Central Pacific which again led to San Francisco. It was this original Southern Pacific which under Mr. Huntingdon's *régime* obtained control of the Atlantic and Pacific to prevent the completion of that line to San Francisco (see p. 581).

In 1884, however, the Southern Pacific *Company* was founded, and Huntingdon and Stanford being absolute masters of the situation, they had no difficulty in rescinding the leases to the C. P. and in leasing that line to their company. From 1873 until 1883 the Central Pacific had been doing extremely well, as is shown by the subjoined table; and heavy dividends, which facilitated the sale of the common stock at high prices (usually above 80 p.c. of its face value) had been paid.[1] By an ingenious device the sale of this stock by no means terminated the control of the 'bosses.' The stock is registered in the names of former clerks of Huntingdon, Stanford, etc., who endorsed it in blank; dividend coupons are attached, but the owners cannot exercise their voting rights as it is impossible for them to have the shares registered in their own names. As soon as the C. P. had been leased to the S. P. Co. (1885) its prosperity waned. There is an abundance of presumptive evidence that it was the principal aim of the controlling clique to bring about this change and to transfer the dividends rightly belonging to C. P. shareholders to their own pockets, or, which is the same thing, to those of the S. P. Company. In 1885, 1886 and 1887 the Central Pacific earned no dividends, but since January, 1888, a new lease contract has been in force which secures to Central Pacific shareholders who paid for their certificates at some 85 p.c. the splendid annual return of 2 p.c., with a chimerical possibility of more. This new lease stipulates that the C. P. shall retain its own earnings, but that the S. P. Co. guarantees these to be at least sufficient to pay 2 per cent. dividend on its common stock. The share capital amounts to

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[1] 3 p.c. in 1873, 5 in 1874, 10 in 1875, 8 in 1876 and 1877, nil in 1878 and 1879, 6 from then until 1883, and 3 in 1884.

$66,275,500, and a 2 p.c. dividend on it requires a surplus of $1,355,510; and the S. P. Co. having agreed to make up any deficiency below a revenue of $1,360,000 over all charges, a regular dividend of at least 2 p.c. per annum is certain, and if the company earns more this percentage may of course be exceeded.[1] This, however, should not lead shareholders to anticipate better returns. Business on the road is no doubt improving, but no matter how great an amelioration may occur, the Southern Pacific will take good care that it does not swell the revenue of the leased company. The S. P. has long since paralleled the best parts of the C. P., and can intercept traffic both from the North and from the South, so that it can regulate the earnings of the Central Pacific to a nicety. Indeed, the falling off of earnings for the current year seems to indicate that this governor has been applied.

At present the Central Pacific embraces 1,360 miles of road, the greater part of which, notably the section across the Sierra Nevada and that to Oregon State Line, runs through a mountainous country and could only be built at great expense. The C. P. meets the U. P. at Ogden, runs North of Salt Lake, and crosses the Sierras at an altitude of 8,000 feet above sea level. In the mountains very fine views can be had from the car windows, although the train passes some of the best places in the long snowsheds which had to be constructed to protect the trains from avalanches. The Eastern road traverses the wild country which was the scene of the gold and silver booms; the Northern part is the Shasta Route described on p. 693; the Southern line follows the San Joaquin River, but is devoid of mountain scenery.

Subjoined are the customary compilations.

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[1] As will be seen from the subjoined statements, earnings for 1891 were exceptionally good, and not only was there no necessity to call upon the S. P. to make good its guarantee, but after the 2 p.c. dividend had been paid there remained a surplus of more than $800,000.

Mileage, Earnings and Operating Expenses.

Year.	*Average mileage operated.*	*Gross earnings.*	*Operating expenses.*	*Net earnings.*	*Per cent. of oper. exp. to earn.*	*Per mile of road.*	
						Earnings.	*Operating expenses.*
	Miles.	$	$	$	$	$	$
1882	1,218·9	13,738,182	6,148,275	7,589,908	44·75	11,268	5,042
1883	1,218·9	13,175,657	5,972,189	7,203,468	45·33	10,808	4,899
1884	1,232·4	11,856,822	5,950,366	5,906,455	50·19	9,620	4,828
1885	1,258·0	10,546,808	4,671,167	5,875,641	44·29	8,383	3,712
1886	1,269·7	11,599,486	5,644,874	5,954,611	48·66	9,135	4,445
1887	1,349·0	13,604,682	7,271,926	6,332,756	53·45	10,088	5,394
1888	1,360·5	15,828,851	9,622,087	6,206,764	60·61	11,641	7,070
1889	1,360·2	15,530,215	9,764,271	5,765,943	62·87	11,416	7,178
1890	1,360·2	15,937,004	9,875,018	6,061,986	61·96	11,715	7,259
1891	1,360·2	16,629,104	9,211,749	7,417,354	55·39	12,224	6,771

EARNINGS AND EXPENSES.

	1891.	1890.	1889.
Mileage operated	1,360	1,360	1,360
	$	$	$
Gross earnings	16,629,104	15,937,004	15,530,215
Operating expenses	9,211,749	9,875,018	9,764,272
Net earnings	7,417,355	6,061,986	5,765,943
Per ct. operating exp. to earnings	55.40	61.96	62.87

INCOME ACCOUNT,

	1891.	1890.	1889.
Receipts—	$	$	$
Rental under lease	2,144,425	1,360,000	1,360,000
Other receipts	8,400	6,000	7,200
Sinking funds and interest earned	649,054	660,542	1,274,186
United States requirements	613,516	525,951	458,263
Interest on C. P. notes held by trustees of land grant mortgage	100,106	—	—
Land sales	352,773	251,342	602,180
Total	3,868,274	2,801,835	3,701,759
Payments—			
Sinking fund receipts, U. S. requirements, and land sales as above, applicable when used for the payment of debt and not available for div.	1,715,448	1,435,835	2,334,560
Dividends, 2 per cent.	1,345,510	1,345,510	1,345,510
Total	3,060,958	2,781,345	3,680,070
Balance, surplus	807,316	20,490	21,689
Other items	*dr* 354,754	*dr* 215,949	*dr* 328,758
Surplus, Jan. 1	2,958,247	3,153,706	3,460,775
Balance, December 31	3,410,809	2,958,247	3,153,706

General Balance Sheet, December 31st, 1891.

Assets—		$
Construction and equipment.—Amounts standing on the books of the Co. for the construction of railroad and telegraph lines, side tracks, bridges, buildings, shops, machinery, tools, telegraph instruments, furniture, right of way, real estate, wharves, piers, snow sheds and galleries, transfer and ferry steamers, river steamers, barges, locomotives, cars, snow plows, etc.		168,963,326 98
Miscellaneous investments		1,576,928 97
Land contracts.—Deferred payments on time sales		1,187,802 35
Cash assets over floating debt		2 894,100 53
Total assets		174,622,161.50
Liabilities—	$	
Capital stock		68,000,000.00
Funded debt.	61,144,000 00	
Less amounts held in sinking funds of the Co., and land trust funds	11,345,954.83	
		49,798,045.17
United States bonds	27,855,680.00	
Less payments made in full to date for the U. S. requirements, under Acts of 1862, 1864, and the Thurman Act	12,509,734.94	
		15,345,945.06
General income account	3 407 858 34	
Income used for redemption of land bonds	10,004,365 32	
Income used for sinking funds of the Co.	15,556,212 67	
Income used for U. S. requirements	12,509,734.94	
		41,478,171.27
Total liabilities		174,622,161.50

Funded Debt, December 31st, 1891.

Character of bonds.	Issued.	Due.	Amount authorized.	Amount outstanding Dec. 31, 1891.	Interest.	
					p.c.	Payable.
			$	$		
C. P. 1st mortg.	1865	1895	3,000,000	2,995,000	6	Jan., July
C. P. 1st mortg.	1866	1896	1,000,000	1,000,000	5	" "
C. P. 1st mortg.	1866	1896	1,000,000	1,000,000	6	" "
C. P. 1st mortg.	1866	1896	1,390,000	1,383,000	6	" "
C. P. 1st mortg.	1867	1897	4,000,000	3,997,000	6	" "
C. P. 1st mortg.	1868	1898	4,000,000	3,999,000	6	" "
C. P. 1st mortg.	1868	1898	4,000,000	3,999,000	6	" "
C. P. 1st mortg.	1868	1898	4,000,000	3,999,000	6	" "
C. P. 1st mortg.	1868	1898	3,525,000	3,511,000	6	" "
West. Pac., 1st mortg. old issue.	1865	1895	—	111,000	6	June, Dec.
West. Pac., 1st mortg. old issue.	1869	1899	1,970,000	1,859,000	6	Jan., July
West. Pac., 1st mortg. old issue.	1869	1899	765,000	765,000	6	" "
Cal. & Ore., 1st mortg. extended	1868	1918	6,000,000	5,982,000	5	" "
C. P. RR. (Cal. & Ore. div.), 1st mortg. . . .	1872	1892	—	5,858,000	6	" "
San Joaq. Vall. RR. . .	1870	1900	6,080,000	7,080,000	6	April, Oct.
Land grant bonds, 1st mortg.	1870	1900	10,000,000	3,550,000	5	" "
Fifty-year bonds of 1938	1888	1938	16,000,000	56,000	6	" "
Fifty-year bonds of 1939	1889	1939	16,000,000	11,000,000	5	" "
Total.	—	—	—	61,144,000		

[1] $111,000 of Western Pacific bonds, series A, are held to take up or exchange for those of the old issue outstanding.

[2] Of the California and Oregon division, series B bonds, here shown, $1,500,000 were paid off on January 1, 1892 from the sinking fund; the balance have been extended to January 1, 1918, at 5 per cent. interest.

[3] $708,000 of these bonds were redeemed and cancelled during the year.

The following sinking funds are in operation: since 1870, $50,000 per annum on C. P. firsts, series A B C and D; since 1872, $50,000 per annum on series E F G H and I. On Western Pacific firsts, A and B, $25,000 per ann. On Cala and Oregon (A and B) since 1876, $100,000 per annum. On San Joaquin branch since 1880, $100,000 per annum. A total of $6,979,791 has hitherto been paid into these sinking funds which, together with the land trust funds (see balance) are invested in securities of subsidiary concerns. The land grant covered some 12,000,000 acres, of which 9,768,000 remain unsold.

Like the Union Pacific this company owes a considerable debt to the Government which will be due in a few years, together with interest accrued thereon. The debt when payable will amount to $67·63 millions, specified in the subjoined extract, from which sum must be deducted $12·5 millions paid under the Thurman Act, leaving a balance of $55·1 millions, secured by a second mortgage. Fortunately the Government knows that even if it should cause the

C. P. to be sold in foreclosure it would hardly fetch enough to pay the first mortgages, a fact which seems to show that there can be circumstances under which even overwhelming debts may be a source of comfort. Although it is uncertain how the affair will be arranged, anxiety as to the dividend is as yet unnecessary, although this is by no means sure to continue. The subjoined extract from the S. P. report for 1890 throws much light upon the question of indebtedness.

"…. If the terms of the existing contract were changed, so as to secure the payment of fixed annual amounts, instead of the inadequate payments required by the Thurman Act (ignoring the equities claimed by the company arising out of the acts of the Government, and considering the case only as affected by the written terms of the contract), the following conditions must be accepted as controlling:—

"First—The impossibility of payment at maturity and the remedy in case of failure.

"Second—What payments are possible in the event of an extension of time.

"The following facts in these points are taken from the report of the Select Committee appointed by the United States Senate in 1888 to investigate the affairs of the Pacific railroads, with a view of proposing proper terms of final settlement. (Senate Report No. 293, Fifty-first Congress, first session, 17th February, 1890.)

„I. The impossibility of payment by the company at the maturity of the United States bonds is sufficiently shown from the sum that the debt and interest will amount to at that time (page 39), namely:—

Central and Western Pacific Railroads.

	$
Principal amount of United States bonds	27,855,680.00
Interest accrued to 31st December, 1890, less repayments by company.	29,976,181.00
Estimated net increase to average maturity of bonds (7th December, 1897).	9,800,000.00
Total balance of debt at maturity. .	67,631,861.00

The Western Pacific Railroad received subsidy bonds at the rate of $16,000 a mile, and its own bonds were issued for an equal amount. On the line East of Sacramento subsidy bonds were issued at the average rate of $35,098 per mile, and the company's bonds were issued thereon also for an equal amount. The Western Pacific is thus mortgaged for a much less amount per mile of road than the Central, and it will probably be able to provide for the payment of its debt, if called on to do so, at the maturity of the United States bonds. But for the Central Pacific East of Sacramento the debt cannot be paid by the company at the maturity of the bonds, and the payment of the company's first mortgage bonds would, in the event of a foreclosure and sale, leave the debt to the United States entirely without provision. Referring to this lack of security held by the United States, the report states:—

"The committee is of the opinion that the present security of the United States upon the property of the Cental Pacific Railroad Company is inadequate; that such property, in case of foreclosure of the first mortgage thereon, will be substantially exhausted in satisfaction thereof, and that it is inexpedient for the United States to redeem the property from said first mortgage, or to become the owner of such property through process of redemption and foreclosure" (page 52).

Again, the report (page 48) quotes and endorses the statement of the United States Pacific Railroad Commission of 1887 as follows:—

"An enforcement of its statutory lien, either at the maturity of the debt or at an earlier period, if the debt or any portion of the same could be made to mature before the date now fixed by law, would result in a sale at which it could hardly be expected that any bid in excess of the amount due on the first mortgage bonds would be made.

"If, therefore (the payment at its maturity of the debt to the United States arising out of the Central Pacific bonds being impossible), the Government should seek a remedy by purchasing the road at the foreclosure sale of its first mortgage, it would pay the full value of the property and still leave the entire amount of its debt unprovided for. The application of this remedy would produce a second condition worse than the first.

"If Congress should allow the matter to take its own course to a conclusion, trusting to the uninterpreted terms of the contract Acts, the Thurman Act would be construed, as I believe, to effect a final settlement. It was certainly the intention at the time this Act was passed to take the whole subject of the settlement out of the company's control, and thus relieve it of any responsibility in the matter, except to provide the payments the Act prescribes. When the United States bonds mature they will be paid by the Government to the holders thereof. The amount of such bonds, 'together with all interest thereon which shall have been paid by the United States,' fixes the final sum. The bonds then having been paid by the Government, and interest no longer running thereon against the United States, it will also cease to run against the company. The sum then unpaid will remain without interest until liquidated by the annual application of 25 per cent. of the net earnings.

"II. In the event of an extension of the debt and its liquidation by fixed annual amounts, the possible payments which the company can make must be limited by the net earnings of the road over which the lien extends, after first providing for the obligations of the first mortgage."

"Competition of other (land-aided) transcontinental lines has greatly reduced the net earnings of the Central Pacific of late years. The surplus available to pay United States debt and dividends for each year up to 1889 is shown in the committee's report (page 65), to which I have added the years 1889 and 1890".

CENTRAL AND WESTERN PACIFIC RAILROADS, AIDED LINES.

The net earnings available for payment of United States debt from time of Thurman Act to 31st December, 1890, including both the Central and Western Pacific aided roads, were as follows:—

Year.	*Annual amount.* $	*Year.*	*Annual amount.* $
1878.	3,573,048 81	1885.	742,721 47
1879.	3,334,075 52	1886.	1,350,714.78
1880.	3,818,858 92	1887.	1,628,721 39
1881.	3,884,057 19	1888.	1,423,523 56
1882.	2,777,688 95	1889.	1,198,295 11
1883	2,225,896.10	1890.	620,698 10
1884.	740,227.15		

The second line to the Pacific coast was opened by the Santa Fe route in 1881. In 1883 three routes were completed near the thirty-second, the thirty-fifth, and the forty-seventh parallels respectively. Each of these lines was aided by the United States, and each introduced a competitor to the Central Pacific, greatly reducing its net earnings from which its indebtedness to the Government was to be paid. The result of this competition is forcibly shown by taking the average net earnings given for the periods prior and subsequent to the completion of the new routes.

Average annual net earnings, aided line, 1878 to 1883 inclusive, $3,268,936.91. Average annual net earnings, aided line, 1884 to 1890, inclusive, $1,098,563,08.

From these figures it appears that the property over which the Government lien extends can provide no greater fixed annual payment than $1,000,000, and that no surety can be had of always meeting even that charge unless the guaranty of the non-aided and associated lines be added. Practically this proposition has been presented to Congress. The terms are so manifestly favourable to the Government that it seems improbable that Congress will decline to accept them when it gives the subject the consideration required for its proper understanding.

PART IX.

THE SOUTHERN GROUP.

CHAPTER L.

CHARACTERISTICS OF THE SOUTHERN STATES.

The South embraces that portion of the United States which is bordered in the North by Maryland and the Ohio, in the West by the Mississippi, in the South by the Gulf of Mexico, and in the East by the Atlantic Ocean, and therefore contains the States of Virginia, West Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Louisiana. These States cover an area of nearly 500,000 square miles, or one-seventh of the great Republic; they contain 15,000,000 inhabitants, equal to one-quarter of the population of the entire country, and represent over one-eighth of the wealth of the Union. The subjoined tables give details:—

Table showing Area, Population and Assessed Valuation of the Southern States. Census of 1890.

	Area, (sq. miles.	Population.	Assessed valuation, million $
Virginia	42,450	1,655,980	390·7
West Virginia	24,780	762,794	187·1
Kentucky	40,400	1,858,635	639·4
Tennessee	42,050	1,767,518	359·9
North Carolina	52,250	1,617,947	226·4
South Carolina	30,570	1,151,149	146·6
Georgia	59,475	1,837,353	415·3
Florida	58,680	391,422	91·8
Alabama	52,250	1,513,017	249·2
Mississippi	46,810	1,289,600	157·1
Louisiana	48,720	1,118,587	234·4
Total	498,435	14,964,002	3,095·3

Table showing Relative Importance of the Southern States, as compared with that of the entire Union. — Census of 1890.

	Southern States.	United States.
Area (square miles)	498,400	3,602,000
Population	14,964,000	62,626,000
Assessed valuation	$3,065,300,000	$24,260,000,000
Miles of railroad	50,786	163,420
Capital of railroad companies	$1,378,500,000	$9,754,000,000
Annual earnings of railroads	$127,000,000	$1,066,000,000
Passengers carried one mile	1,243,000,000	12,521,000,000
Tons freight carried one mile	5,414,000,000	79,198,000,000

Some of the oldest settlements in the United States are to be found in *Virginia*, which, with the possible exception of Kentucky, is undoubtedly the most advanced of the commonwealths in this region. Like all Southern States, it is pre-eminently agricultural, but of late industries have developed to such a marvellous extent that before long it will take a prominent position among the manufacturing States of the Union. The Eastern portion of the State, where the waters of Chesapeake Bay have numerous inlets, consists of valleys eminently adapted for the purposes of the farmer. In this part the towns of Richmond, the capital and well-known tobacco market; Norfolk, the terminus of the Norfolk and Western RR.; Portsmouth, one of the principal naval stations; and Newport News, the terminus of the Chesapeake and Ohio, are situated. In the West the country is more rugged, the outposts of the Alleghanies occupying that portion of the State. These mountains abound with minerals, notably coal and iron, to which reference will be made in succeeding chapters; and their summit separates *West Virginia* from Virginia. This State is bordered in the West and North by the Ohio, and has very much the same characteristics as the Western half of Pennsylvania close by. It produces coal, iron and petroleum, but farming is equally prominent as other industries.

Kentucky is bordered in the West and North by the Ohio, in the South by Tennessee, and in the East by the Cumberland mountains, which are part of the Alleghanies. The State is chiefly agricultural; the corn crop sometimes reaches 100,000,000 bushels annually, and comes largely from the Western counties; wheat makes up another 12,000,000, and oats 8,000,000 bushels. Kentucky is, however, principally noted for its immense production of tobacco, 280,000,000lbs. out of the world's crop of 1,300,000,000lbs. being grown there. The crop of fragrant weed represents an annual value of over the $10,000,000, and its weight amounts to nearly two-thirds of the total grown in America. Louisville is the principal market whence this produce is carried to Richmond. Among other things the State is noted for its whisky, its colts and its colonels. Mining is progressive, a great portion of the State being underlaid with coal strata; the annual production of the black mineral now reaches some two million tons, while the output of pig iron averages about 50,000 tons. There are also a number of oil wells.

Tennessee lies South of Kentucky, and presents practically the same characteristics, with the sole exception that mining industries are more important. In the East are the Alleghanies with the mining regions around Bristol, Chattanooga, Knoxville, etc; while in the West agriculture predominates, the output including 80,000,000 bushels of corn, 9,000,000 of wheat, 8,000,000 of oats, 40,000,000lbs. of tobacco, large quantities of fruit, and many head of live stock. The iron industries of Nashville are well-known, and new towns are springing up almost everywhere in the mountains. The coal fields, which extend from Pennsylvania into Alabama, occupy 5,000 square miles of the Cumberland Plateau, and the output is about 2½ million tons annually: while in the West, near the Mississippi, some cotton is grown. The principal towns are—Nashville (pop. 80,000), Memphis (70,000), Chattanooga (30,000) Knoxville (23,000) and Jackson (10,000).

North Carolina lies to the South of Virginia, and also grows tobacco and cereals, while from the mountains in the Western portion some minerals are extracted. Wilmington (pop. 20,000) is the chief town, Raleigh has 13,000, Charlotte 12,000, and Asheville 11,000 inhabitants. Besides some 40,000,000 million bushels of corn the State annually produces 6,000,000lbs. of rice, 40,000,000lbs. of tobacco, and 400,000 bales of cotton.

South Carolina is still more a cotton country, and the yearly production exceeds 800,000 bales. There are extensive rice plantations, and some 70,000,000lbs. of that cereal are now grown. The principal cities are Charleston (pop. 55,000), one of the leading cotton ports of the South, and Columbia (pop. 16,000).

Georgia contains Savannah, the greatest cotton port on the Atlantic coast, (pop. 45,000); Atlanta, a centre of railroads and industries (pop. 70,000); Macon, (25,000); Augusta, (35,000); and Columbus (18,000). Georgia lies in the cotton belt, and has exported as many as 1,000,000 bales of that useful commodity in a year; but the State being divided into three parts of different altitude it has a variety of produce hardly equalled by that of any other Southern State.

Florida with its tropical climate and its extensive swamps has not attracted many settlers, and in consequence takes no very prominent place among American States. Although its settlement dates as far back as 1565, but a small part of its soil is under cultivation, the chief products being tobacco, cotton and tropical fruit. Florida is rapidly coming into favour as a winter resort, its climate at that period of the year being more genial even than that of Southern California.

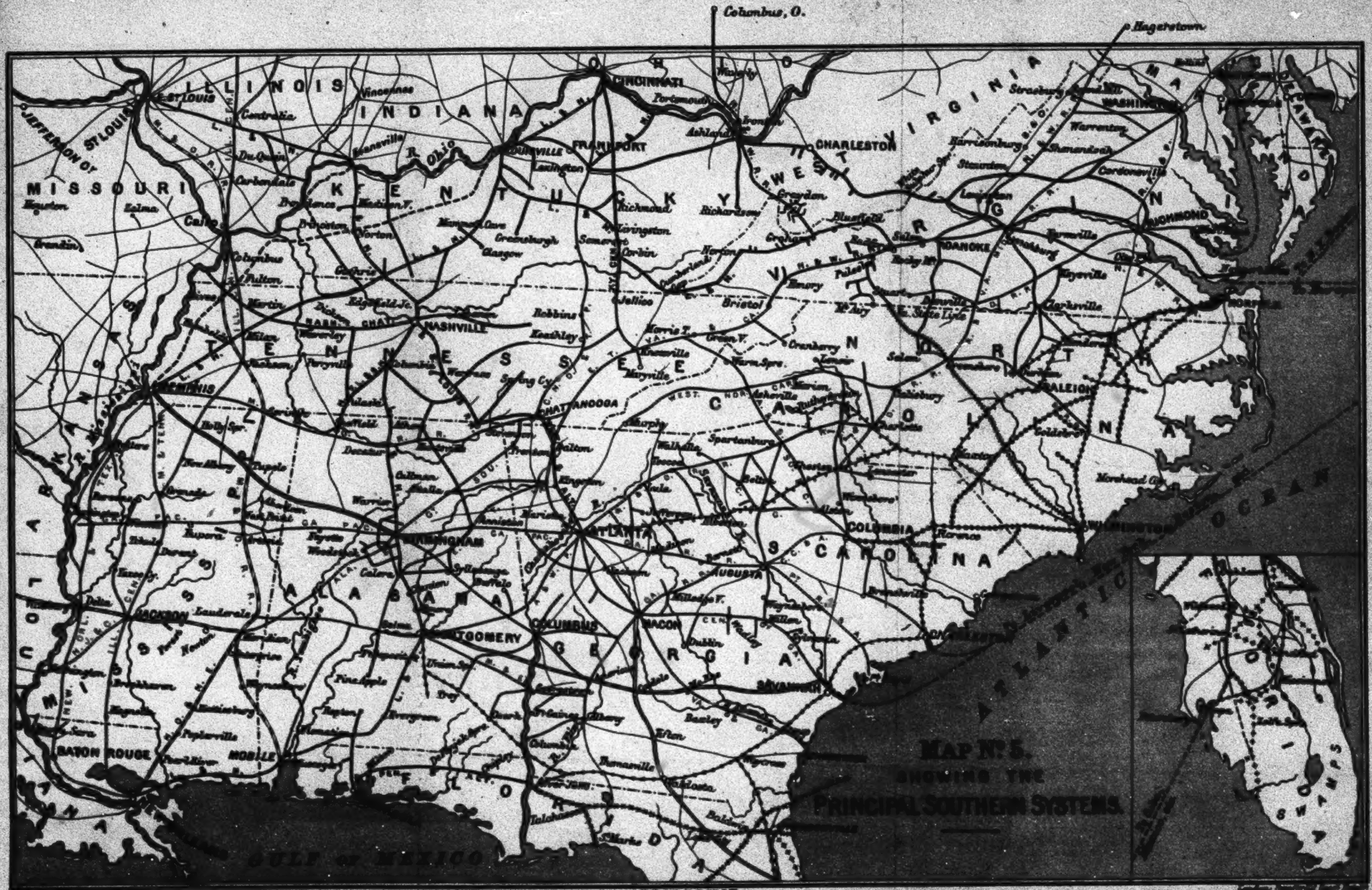
Alabama, into which the Alleghany mountains extend, is undoubtedly the coming State of the South. It produces immense quantities of cotton and contains an abundance of minerals—a circumstance responsible for the rise of Birmingham, a town destined to become a formidable rival of all other iron centres of the world. Within fifteen years the pig-iron produced in Alabama has increased from 50,000 to 1,000,000 tons; and the cheapness of coal, iron and labour has created several great manufacturing cities such as Birmingham, Sheffield and Bessemer. The State produces 700,000 bales of cotton, 450,000lbs. of tobacco, 40,000,000 bushels of cereals, etc.

Mississippi is an agricultural State, whose responsive soil and stimulating climate yield a great variety and profusion of the fruits of the earth; more than four-fifths of the population is employed in farming. The great plantations have given way to small farms mainly producing cotton, the annual output of which amounts to some 900,000 bales, and is considerably smaller now than before the war; cereals are also grown in great quantities. There are no large towns in Mississippi, Vicksburg, which has a population of 13,000, being the most important. Jackson is the principal railroad centre.

The State of *Louisiana* contains the commercial metropolis of the South, New Orleans, which has a quarter of a million inhabitants. Like the other Southern States its chief product is cotton, of which 560,000 bales are annually sent out. Among other items Louisiana grows some 1,000,000 lbs. of rice a year, there being 1,500 plantations employing 50,000 persons; sugar is also produced in vast quantities.

The negroes are one of the most prominent features of the country, together with traces of the war, for the rapid development of a new life under new conditions has not yet succeeded in effacing the numerous evidences of the great struggle with the North. From the moment he enters Virginia along a way studded on both sides with battlefields and burial grounds the reminiscences of the rebellion constantly impress themselves upon the stranger. The war took the life-blood out of the South. After the conclusion of peace, the misery and poverty were terrible. The male population was decimated, homes were ruined, and the dearth of money was unprecedented. The old generation was exhausted; but the young people at once commenced rebuilding their homes, and tried to adapt themselves to the new conditions of free labour. Soon there came an era of feverish activity. The entire world was craving for cotton, and the fibre commanded extraordinary prices. Unfortunately there was no money to cultivate it; and the farmers, on the verge of poverty through the devaluation of the currency, but with wealth within reach because they could raise cotton, accepted money at usurious rates from the few who had hoarded it. They mortgaged crops that were not sown yet, and set to work to produce cotton and nothing but cotton to the utmost capacity of their land; but during the first years the usurer got the profits, and the farmers remained poor while their soil became exhausted. Only gradually did they contrive to free themselves from the money lenders. The soil got a rest, and after a while corn and potatoes grew among the cotton fields. This change was of the greatest importance to the farmers of the South. Whatever little money the cotton planter made no longer had to be sent to the West in exchange for cereals and other food; it accumulated, and although the task took him 20 years to complete he at last freed his property from debt.

While the agriculturalist thus slowly returned to prosperity, others commenced to develop the mineral resources and to establish industries. Cotton became king with the farmers; iron became king with others, but in this case also progress was of a very gradual character. In 1880 the entire produce of the South was 212,000 tons of iron. In 1890 more than one-and-a-half-million tons were produced, and making due allowance for the fluctuations of trade we cannot but anticipate that the output will increase in the same degree as people accumulate money. Labour is cheap, and a ton of pig iron can be and is produced at $8, so that the South can undersell the North; it seems even that Tennessee, Georgia, and Alabama will compete with Glasgow, for so stated Mr. Bell in a report to the English Iron and Steel Institute. Northern manufacturers are rapidly building furnaces in the South, iron being already shipped thence to Canada and California; and wherever furnaces were built cities rose as if by magic, wealth increased at a marvellous rate, and real estate went booming as it never boomed before. It may be of interest to repeat here a story which I was told in Birmingham, Alabama. That town did not exist in 1871, nor was it thought of. In 1872 a dozen Southern men bought a large estate near mountains of iron and miles of coal, in the centre of the present iron district of Alabama. They paid $9,000 for it, the capital of the company being $12,000. When the first sale of lots occurred the auctioneer lost his way in the wilderness, but by his own placards discovered that he was on the spot where the corner of Fifth-avenue and Twenty-sixth-street was to be, and now is. The capital of $12,000 multiplied itself into $200,000 stock, and on this $7,000,000 in dividends have been paid. In one year the taxable property of Jefferson county (in which Birmingham is situated) rose $15,000,000, and many a lot now fetches more than the entire county would have done 30 years ago. The twelve leading citizens are 'worth' $36,000,000, and gorgeous private residences, many of them eclipsing the finest houses in Belgravia, are to be found in the suburbs. One industry created the other, and the newly-acquired wealth was and still is constantly invested in new enterprises. With the production of iron that of coal rose from 3,000,000 tons in 1870 to 20,000,000 in 1890, and upon these two fundamental industries dozens of others followed in all parts of the country, causing an immense appreciation in the value of real estate, creating countless new communities, and carrying prosperity everywhere. Ores were no longer sent North to be converted into goods and then carried back—a proceeding which enhanced their cost by about $18 a ton—but extensive works were built which finished goods for the South in the South. Formerly the raw


MAP No. 5.
SHOWING THE
PRINCIPAL SOUTHERN SYSTEMS.
Columbus, O.
Hagerstown
ILLINOIS
INDIANA
OHIO
MISSOURI
KENTUCKY
WEST VIRGINIA
VIRGINIA
MARYLAND
DELAWARE
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
ALABAMA
MISSISSIPPI
ARKANSAS
LOUISIANA
FLORIDA
ATLANTIC OCEAN
GULF OF MEXICO
ST. LOUIS
CINCINNATI
LOUISVILLE
FRANKFORT
CHARLESTON
WASHINGTON
RICHMOND
NORFOLK
ROANOKE
NASHVILLE
MEMPHIS
CHATTANOOGA
RALEIGH
ATLANTA
BIRMINGHAM
COLUMBIA
WILMINGTON
AUGUSTA
MONTGOMERY
COLUMBUS
MACON
SAVANNAH
JACKSON
MOBILE
BATON ROUGE
NEW ORLEANS
Vincennes
Centralia
Evansville
Du Quoin
Carbondale
Cairo
Portsmouth
Ironton
Ashland
Lexington
Richmond
Jellico
Knoxville
Bristol
Asheville
Spartanburg
Charlotte
Salisbury
Greensboro
Danville
Lynchburg
Staunton
Harrisonburg
Strasburg
Warrenton
Goldsboro
Morehead City
Decatur
Anniston
Dalton
Rome
Meridian
Vicksburg
Albany
Thomasville
Jefferson City
St. Marks
SWAMPS

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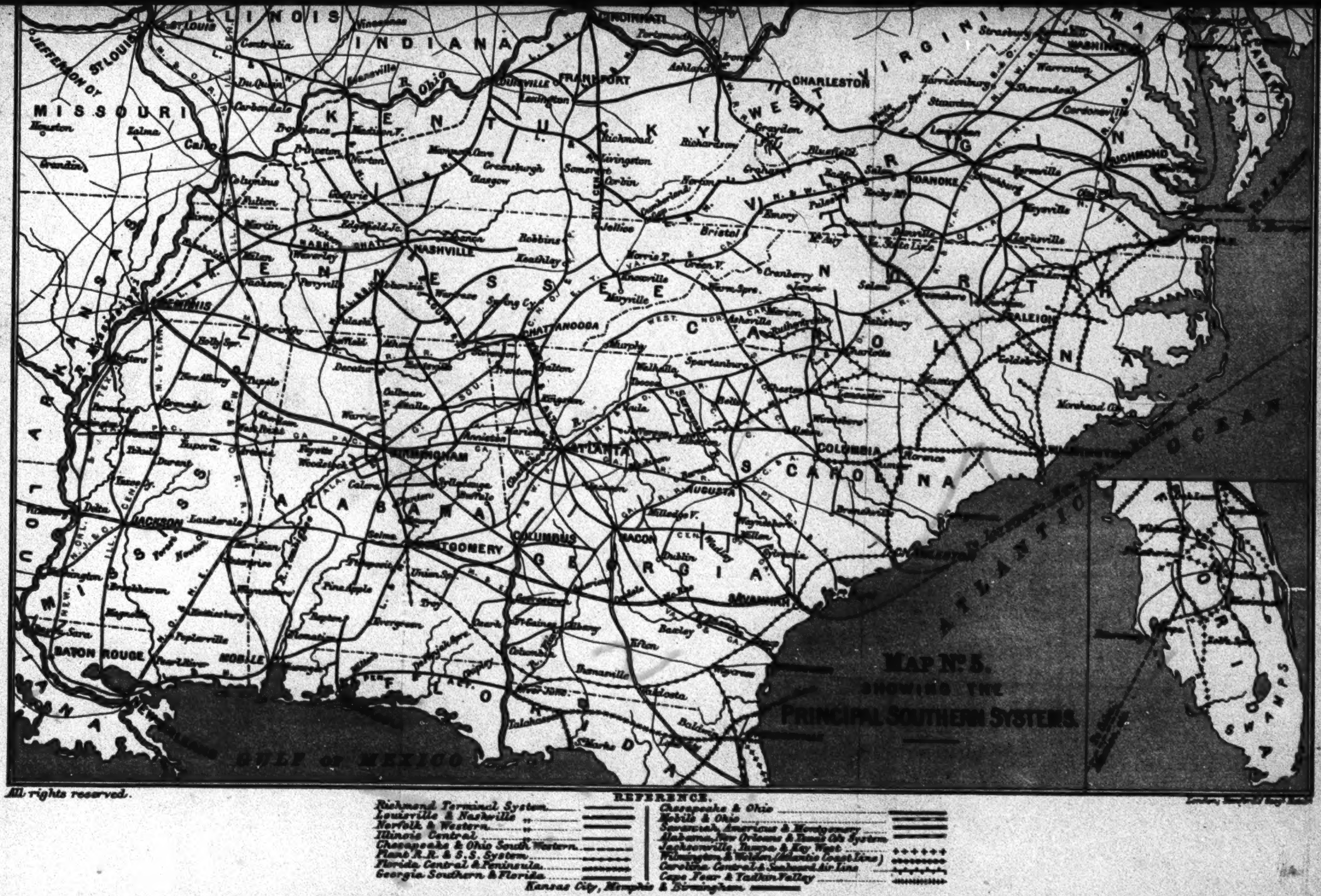
REFERENCE.

Richmond Terminal System ——— | Chesapeake & Ohio ———


MAP No. 5. SHOWING THE PRINCIPAL SOUTHERN SYSTEMS.

ILLINOIS
INDIANA
MISSOURI
KENTUCKY
WEST VIRGINIA
VIRGINIA
MARYLAND
DELAWARE
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
ARKANSAS
MISSISSIPPI
ALABAMA
GEORGIA
LOUISIANA
FLORIDA
ATLANTIC OCEAN
GULF OF MEXICO
ST. LOUIS
CINCINNATI
LOUISVILLE
FRANKFORT
CHARLESTON
WASHINGTON
RICHMOND
NORFOLK
ROANOKE
NASHVILLE
MEMPHIS
CHATTANOOGA
RALEIGH
ATLANTA
BIRMINGHAM
COLUMBIA
AUGUSTA
WILMINGTON
CHARLESTON
SAVANNAH
COLUMBUS
MACON
MONTGOMERY
JACKSON
BATON ROUGE
MOBILE
NEW ORLEANS
SWAMPS
REFERENCE.
Richmond Terminal System
Louisville & Nashville
Norfolk & Western
Illinois Central
Chesapeake & Ohio South Western
Plant R.R. & S.S. System
Florida Central & Peninsula
Georgia Southern & Florida
Chesapeake & Ohio
Mobile & Ohio
Savannah, Americus & Montgomery
Alabama, New Orleans & Texas Pac System
Jacksonville, Tampa & Key West
Wilmington & Weldon (Atlantic Coast Line)
Carolina Central & Seaboard Air Line
Cape Fear & Yadkin Valley
Kansas City, Memphis & Birmingham

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cotton was sent to New England to be spun, bleached, woven, nay, even cut and made into garments for Southern customers; now there are mills in and near the cotton belt, and with its advantage of cheap labour the country bids fair to compete before long in the world's markets with Massachusetts and Manchester. Together with this came the invention of various processes to enhance the value of cotton. Cotton-seed, formerly useless, is now converted into oil, valued at $60,000,000 yearly, and into fodder and manure, worth $40,000,000 per annum. The cotton crop itself exceeds 8,500,000 bales, or 3,000,000,000 pounds, out of which $350,000,000 per annum are realised. Cotton is the backbone of the country, for its culture is almost a monopoly of this region, which produces by far the major part of the world's supply. Cotton and iron are the keystones of the prosperity, and this prosperity rests upon the soundest possible foundation, because no other region is capable of producing the former to any considerable extent, while as regards the latter the cost of manufacture nowhere is as low as in the Southern States. Nor is cotton and iron all. While other regions are becoming destitute of timber, the vast supplies of Southern forests are almost untouched. Agricultural produce which for so many years had to be imported from the West, is now raised not only in quantities sufficient to meet the home demand, but also to admit of exportation, and fruit and vegetable gardening have reached a very high state of perfection. Virginia kitchen supplies in particular find ready buyers in Northern markets, and sell at excellent prices, the season being six weeks ahead of that of the 'garden region' of Pennsylvania and New Jersey; and vast quantities of vegetables leave by steamer, while during the summer express trains, loaded with nothing but exquisite fruit, depart daily for the North. These various branches of farming and industry are carefully fostered by the railway companies. Most lines have doubled their mileage within the last ten years, and the growth of their business, as will be shown in subsequent chapters, is perfectly amazing. Yet in spite of all this the South as yet fails to present a prosperous appearance, and, compared with Europe, or even with the North, looks poor. The reason is obvious. The region has but just emerged from an unprecedented state of poverty and destitution, out of which it has raised itself almost without outside help, for the South employs but an insignificant percentage of Northern or foreign capital; and however remarkable the results of 20 years' work may be, development is but in its first stages. One may forecast, but one cannot imagine what the South will be if farm, forest and mine are developed to their full extent. Of these possibilities, or one may say certainties, the Southern people are fully aware. The West has had its time of quick growth, and progress is becoming steadier year by year. Hence the device is no longer 'Go West' as it was in the early eighties, but, to quote the words of Mr. Chauncey M. Depew, the national orator: "Go South, young man, to the booming land of King Cotton!" In spite of the depression which, arising from the low price of cotton, has recently prevailed throughout the South, the best authorities assert that after decades of adversities and backwardness these States are rapidly attaining that economic prominence to which their extraordinary natural advantages entitle them.

CHAPTER LI.

THE ILLINOIS CENTRAL.

From the Sunny South to the Noble North, from Palm to Pine, from the land of King Cotton to the land of King Corn: by these and various other terms do the believers in alliteration describe a journey from New Orleans to Chicago, which along the Illinois Central lasts but twenty-seven hours. Within this brief space of time one can cross three extensive 'belts' one of which is noted for its cotton, another for its coal, and the third for its corn and its cattle.

The Illinois Central now embraces the following lines:—

Main lines owned:		
Illinois Central, Chicago to Cairo	364·7	miles
" " Centralia to Dubuque . . .	340·8	"
Chicago, St. Louis and New Orleans RR. Cairo to New Orleans.	547·8	"
Total main lines owned. . . .	1,253·3	"
Branches owned:	1,030·5	"
Total owned	2,283·8	"
Lines leased:		
Dubuque and Sioux City RR.	524·0	"
Cedar Falls and Minn. RR.	75·6	"
Total leased	599·6	"
Total operated	2,883·4	"
To this must be added the New Orleans and Texas RR., purchased June, 1892. . . .	798·0	"
Total length of system, June 30th, 1892.	3,681·4	"

The main lines constitute direct connections between Chicago and Sioux City (via Dubuque) and between Chicago and New Orleans (via Cairo and Memphis), and intimate relations with other railways give access to leading points situated near, such as St. Paul, Des Moines, and St. Louis; for example, a through service between the latter town and Chicago is maintained in conjunction with the Vandalia Line. From the traffic manager's point of view the system consists of three distinct parts. The line to Sioux City is a Granger road, and its direction of trade is naturally towards Chicago. The lines in Illinois have a strongly developed local and a mixed through traffic, the coals from the Illinois fields constituting no mean proportion of their freight. The direction of trade South of the Ohio is towards New Orleans, and in consequence the system has a variety of traffic which has no parallel in so far that there is not another railway which at the same time is one of the leading carriers of cotton, coals, corn and lumber.[1]

The Southern part of the system is no doubt the most interesting. New Orleans is one of the oldest towns in the United States, and the commercial outlet of the lower Mississippi valley and the regions adjacent thereto; and the rapid development witnessed throughout the South and Southwest has greatly expanded its trade, as may be inferred from the fact that the value of exports from this port rose from eighty million dollars in 1886 to a hundred and thirty millions in 1891. Cotton is the great staple of Louisiana, Mississippi, etc., and next come rice, tobacco, and other agricultural produce, most of which is shipped abroad. No mean proportion of these staples, and a goodly quantity of cereals from the North besides, reach New Orleans by the Mississippi, which opposite the town is a mile and a half broad, and sweeps in a fine curve round the commodious quays and wharves of the "Crescent City." The Levee is six miles long, and on the opposite shore, in the town of Algiers, there is an equal amount of river frontage. Yet this immense space is by no means too large, and during the cotton season one can often see a triple row of Mississippi steamers in the central part of the quay.

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[1] The Illinois Central transports about 1,750,300 tons of coal. 600,000 tons of cereals, 575,000 tons of lumber and 600,000 bales of cotton per annum; a great proportion of these goods is exchanged with the 52 roads which its lines cross between Chicago and New Orleans.

Among the railroad connections of New Orleans the Louisville and Nashville, the New Orleans and Northeastern (connecting with the Richmond Terminal system), the Texas Pacific, the Southern Pacific, and the Illinois Central are the most prominent. The latter forms the principal communication with Chicago, which has the advantage of the shortest route, 915 miles in length; there are not less than five various ways along which railroad traffic between the two cities can be conducted.

From New Orleans to Memphis the I. C. has, since the recent purchase of the Louisville, New Orleans and Chicago RR., possessed a double route; between Memphis and Cairo there is but a single line which has no other competitor than the Chesapeake and Ohio Southwestern. These lines lead through the cotton belt, which, if seen at the right season, is one of the most attractive regions of the United States, and clothes the world just as the West feeds it. The country is damp, level and hot, and one sees little but negroes and cotton plantations. There is no more beautiful sight than a cotton field in full bloom, the abundant flowers changing shape and hue as the day progresses. In August the blossom disappears, and the lint begins to protrude from the seeds. This goes on slowly until frost comes; the seeds do not ripen simultaneously, but gradually, so that picking lasts from four to five months. It is done by negroes, old and young, male and female, who gather the fibre in baskets. The large downy pendants, of a yellowish-white colour, hang everywhere on the shrubs, vividly contrasting with the large green leaves; and these cotton landscapes, sprinkled

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[1] Among the exports there are 45,000 barrels of flour, 23,000,000 bushels of grain and 3,000,000 bales of cotton.

with dwellings, trees and shrubs, afford one of the prettiest spectacles imaginable, especially if seen under those fine skies for which the lower Mississippi valley is noted.

The bulk of the cotton carried by the Illinois Central comes from districts along the line South of Memphis, but a considerable proportion is received in that city and has to compete with river navigation, so that rates from this point must be very low. A few years ago this gave rise to complaints about discrimination which at the time were quoted as one of the most forcible arguments advanced in Congress in favour of the 'long and short haul clause' of the Interstate Commerce Act. It is known as the Winona Discrimination, and has been fully dealt with on pp. 22 and 23.

Memphis is one of the most notable cotton centres of the world and the principal town between St. Louis and New Orleans. As has been stated on p. 611 it has a great future as an outlet of the Southwest, trade with which will be materially benefited by a fine steel bridge now being built across the Mississippi. Cairo, situated at the confluence of Ohio and Mississippi, has never attained the commercial importance justified by its position.

North of the splendid bridge across the Ohio, we find the Central Illinois coal fields lying East of St. Louis. This mining region is very extensive, and contains 360 mines, employing some 24,000 people; in 1889 it produced 12,100,000 tons of soft coal, which is extensively used for industrial purposes throughout the West, and responsible for the dense clouds of smoke that veil St. Louis, Chicago and many other Western cities. Besides coal, the region produces vast quantities of timber and grain, this being the Southern limit of the corn belt, which stretches far across the Canadian border. Apart from its main line, the railroad has a second track running across Illinois, and a network of smaller railways in the same State, so that South of Chicago it holds a commanding position as a local road. The second line just referred to goes to Freeport, and there meets the Dubuque and Sioux City system, leased and owned by the I. C., 600 miles long, and forming a most valuable link between Chicago and the Missouri River. This branch has indirect connection with St. Paul and the Northwest via the Chicago, St. Paul & Kansas City RR.

In Chicago itself the railroad has fine terminal facilities, quite in keeping with its local importance; the line is the oldest of all roads terminating in Chicago, and therefore was able to select the best position. Its yellow cars run for a long distance along the beach of Lake Michigan, the great inland sea, until they reach the passenger terminus, situated in the heart of the city, at the foot of Adams-street and on the Lake front. The freight yards lie a little beyond this, just at the point where the Chicago River empties into the Lake, and near the immense elevators and great timber yards lining the Lake and the river's mouth. The terminal is also used by the Michigan Central and until 1891 the B. and O. leased part of it, but refusing to pay a higher rental this line went to the Northern Pacific terminus (p. 275). The suburban traffic of the Illinois Central is greater than that of all other Chicago roads combined, and the company owns an eight-tracked road skirting Lake Michigan over a distance of eight miles and connecting the fashionable South Side with downtown. It is the only road passing the World's Fair grounds, and this Exhibition itself as well as its influence upon the growth of the 'South Side'—which, however, was also promoted to a very marked extent by the Illinois Central—has necessitated considerable additions to rolling stock and extensions of tracks and stations.

The history of this railroad, about which Mr. Wm. K. Ackerman, one of its ex-presidents, has written an interesting volume of memoirs for private circulation, affords some curious reading illustrating 'ways and means' of early railroading. When Chicago was still a village, attempts were made to build a line connecting the Lake with the Ohio. This was as early as 1834, when the Erie and B. and O.

had just been started, and the possibility of having faster communication with the East began to dawn upon the minds of the few people then living in Illinois. But it was not until 1851 that the Illinois Central Railroad Company received its charter from the State which, with concurrence of Congress, transferred to the company all lands which the Federal Government had placed at its disposal for the purpose of encouraging the construction of railroads. Hence the company received a magnificent land grant consisting of a tract of fertile soil twelve miles broad and running from the North to the South throughout Illinois. [1] In addition the State granted many other favours, such as immunity from taxation; but on the other hand a clause was inserted in the Charter according to which the company must pay the State 7 p.c. of the gross revenue of its original road, 706 miles in length.

With such strong support the company could not but flourish. A few years after its birth — in 1859 — there were, it is true, some difficulties, but these were soon tided over, and left no trace behind them; and when the early sixties came there dawned an era of prosperity which has few parallels in the history of American railroad companies. As soon as the war was over a general business activity set in, and while earnings from traffic were excellent the company realised vast sums from the sale of its lands; as a result it was in a position to pay regular dividends of 10 per.cent. in each year between 1865 and 1873, and 8 per cent. in 1874, 1875 and 1876. In 1877, however it was impossible to pay more than 4, and this considerable change for the worse caused grave apprehension abroad. Illinois Central stock was and still is largely held in England and Holland, and the shareholders in Europe felt so alarmed that they appointed a committee to inquire into the causes of the decline in the company's prosperity. The delegates, after inspecting the road, brought out a report which on the whole spoke in reassuring terms of the condition and prospects of the company, and found the decline in revenue and dividends to be due to the following causes: In the first place the bulk of the company's land had been sold by 1875, and hence the revenue from that source declined very considerably; it gradually fell off from $3,036,490 in 1868 to $108,135 in 1877. In the second place earnings from traffic had decreased in sympathy with the effects of the crisis of 1873, but also as a result of growing competition. With regard to this last fact it should be stated that the Illinois Central has always been known for its conservatism; indeed, this commendable quality has sometimes been carried too far. Had it been a little more enterprising the company might have secured control of the entire local traffic of Illinois; but instead of this it permitted young rivals to encroach upon its territory, and a decline of business was the natural result.

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[1] Between 1852 and 1871 the company realised not less than $24,000,000 from the sale of these lands.

After the visit of the Anglo-Dutch committee, however, the company adopted a more aggressive policy, though still retaining its former characteristic in a sufficiently marked degree to lead to undesirable consequences, especially in recent times. Extensions were carried out very carefully and by degrees. In 1867 the 'leased lines in Iowa' were added to the system, and in 1872 the company made an advance of $5,000,000 to the Mississippi Central and Jackson, New Orleans and Great Northern Railroads (now the Ch., St. L. & N. O.) in return for which these concerns made traffic agreements with the I. C., which owned most of their bonds. In 1876 they were sold in foreclosure, and the two roads came under the control of the I. C., which reorganised them as the Ch., St. L., & N. O. RR. The line was afterwards leased to the Illinois Central, which guaranteed a sufficient revenue to pay 4 p.c. on the share capital. The shares were exchanged for 'leased line stock' and are held in trust; if the semi-annual dividend of 2 p.c. is not paid when due holders of this stock can claim the return of the original.

Ch. St. L, and N. O. shares. No further extensions of importance were carried out until June, 1892, when proposals to purchase the Louisville, New Orleans and Texas RR. were submitted to the shareholders and unanimously adopted. This line runs from Memphis to New Orleans and has several branches, so that it was of some account as a competitor of the Southern part of the system;[1] it has now been consolidated with the Illinois Central, which purchased all its stock and bonds for $5,000,000 in cash and $20,000,000 in 4 p.c. bonds, part of an issue of $25,000,000. The bonds and shares bought were: $16,132,000 first mortgage,

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[1] A circular issued by the Ill. Central in June, 1892, says:—

"The Louisville, New Orleans & Texas Railway runs from Memphis (population 64,495) through the Delta to Vicksburgh, the largest city in Mississippi (population 13,373), thence through Baton Rouge, the capital of Louisiana (10,478), and so on to New Orleans (242,039), with branches to Natchez (10,101), to Greenville (6,658), and to Jackson (5,920), and other towns. Although the main line from Memphis to New Orleans is by 56 miles longer than the route of the Illinois Central and lies so far distant from it as not to affect local rates in Mississippi, the exceptionally low grades of the Louisville, New Orleans & Texas enable it to run freight trains of fifty cars over the greater part of its line and to give nearly as quick a passenger service between Memphis and New Orleans as that of the Illinois Central.

"The Louisville, New Orleans & Texas Railway with its branches, of which 75 miles are narrow-gauge, now comprises 796 miles of railway. During the year ended June 30, 1891, with 790 miles in operation, the gross earnings were $3,716,430, being at the rate of $4 704 per mile. The road is well-equipped. The track is laid with steel, is well tied and partially ballasted. The company possesses good freight terminals at Memphis and at New Orleans, as well as shops and tools for the repair of machinery at Vicksburg.

"The following extract from the annual report of the company for the year ended June 30, 1891, explains itself:—

"A tolerably correct estimate of the exceptional resources and material prosperity of the section of country traversed by these lines can be formed by the following statement of the earnings since the road was opened.

Years.	*Average mileage operated.*	*Gross earnings.*	*Operating expenses.*	*Net earnings*
		$	$	$
1890-91	790	3,716,429	2,656,516	1,059,912
1889-90	686	2,039,673	2,171,060	868,612
1888-89	527	2,559,024	1,844,556	714,486
1887-88	514	2,443,376	1,682,308	761,072
1886-87	514	1,993,101	1,346,151	646,499

"The rapid development of the local interests, principally agricultural, which resulted from the opening of these lines, may be measured by the increase in the local traffic, which shows a gain of 117·2 per cent. in three and one-half years, and during which time the earnings of the branches added in the last two years, have been at their minimum." * * *

$9,104,000 cumulative second mortgage, $10,000,000 land income mortgage bonds, and $5,000,000 common shares.[1] In 1891 net earnings of the road were $1,059,912, and the annual charges on the new 4 p.c. bonds together with interest at 5 p.c. on the $5,000,000 amounted together to $1,050,000; terms are fair to both sides, and whilst involving the Illinois Central in no financial risks, that company cannot fail to materially benefit from the additional strength it necessarily derives from the absorption of a competitor for through freight between Memphis and New Orleans.

The property of the Illinois Central has until recently not been in particularly good condition; in fact, the ultra-conservative management failed to introduce those improvements which were necessary to keep the road up to the requirements of the times. Rails were too light and rolling stock antiquated, and as such a condition could not but react upon business, it was found impossible to further postpone the introduction of urgent betterments. These have to a large extent been paid out of earnings, but the necessity of extension in connection with the World's Fair, and of additions to the New Orleans terminals, made such demands upon the treasury that all could not be met out of earnings, in consequence whereof an increace of the share capital by $5,000,000 was proposed. In connection herewith attention must be called to the fact that the Illinois Central has always followed the policy of keeping the funded debt at the lowest possible figure. Some of its earlier issues of bonds are redeemed out of land grants, and, as the foregoing remarks and the subjoined tables show, the company's own debt amounts to but $34 millions, the remainder being assumed debt of absorbed corporations.

Owing to its moderate capitalisation the I. C. has always offered good returns upon its capital. Its bonds, the interest of which has invariably been promptly paid, rank among the gilt-edged securities, and its shares have always offered a good interest. From 1865 until 1873, inclusive, they paid 10 p.c., 1874 to 1876, 8, and in 1877, 4, (see above); 6 p.c in 1878, 79 and 80, 7 p.c. in 1881 and 1882, and in 1883, 8 p.c. in cash and 17 p.c. in leased line stock. In 1884, 10, in 1885, 8, in 1886, 7½. in 1887 and 1888, 7 p.c. was paid, but since 1889 interest has declined owing to the large expenditure upon betterments. 5½ p. c. was paid in 1889, 6 in 1890, and 5 in 1891 and 1892. Within the last few years, however, there has been a very pronounced expansion of business, and if the large expenditure for improvements ceases better returns will no doubt be possible, in spite of the recent additions to capital. The subjoined table shows an increase in gross earnings of over $4,500,000 since 1889-90, and as net earnings remained nearly the same the inference is that during the last two years vast sums were spent upon improvements and paid out of earnings. Below are the customary tables:—

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[1] These bonds are pledged to secure the $25,000,000 4 p.c. collateral trust bonds.

Traffic Statistics, Illinois Central RR.

Year.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate.* — *Cents.*	*Revenue.* — $	*Million tons carried one mile.*	*Rate,* — *Cents.*	*Revenue.* — $
1877	1.108	46 0	3.11	1,037,501	240.3	1.82	3,032,337
1878	1,256	43·3	3.17	963,722	306.3	1.64	3,174,160
1879	1,256	44·6	3 17	947,603	335·5	1 52	3,262,526
1880	1,320	63·3	2.51	1,088,674	381·3	1.54	3,671,373
1881	1,320	82 0	2.16	1,208,786	386·0	1.52	3,718,[illegible]
1882	1,320	85 3	2.39	1,330,093	417 8	1.42	3,713,184
1883	1,928	113·3	2.42	1,357,407	604 6	1.44	3,463,646
1884	2,000	123 6	2.23	—	677 5	1 37	—
1885	2,066	129 0	2 21	—	623·4	1.31	—
1886	2,069	114 6	2 21	—	740 0	1.18	—
1887	2,255	122·8	2.26	—	831·0	1.09	—
1888	1,953	134·5	1.75	—	964 0	0 95	—
1889	2,275	76 3	1.67	—	474·8	1.03	—
1890	2,275	158·2	2 08	2,757,624	1,169·3	0.95	10,004,754
1891	2,875	183 9	2.07	3,612,330	1,302·0	0.934	12,160,600
1892	2,883	208 8	2.10	4,336,389	1,411·4	0.908	12,800,972

NOTE: Prior to 1891 earnings on Iowa lines are not included in these statistics. Years end: until 1888, inclusive, Dec. 31; since then June 30. The 1889 figures are for six months only.

Table showing Mileage, Capital, Fixed Charges, Earnings, Revenue and Dividends for Twelve Years.

Year.	*Mileage owned.*	*Share capital.*	*Funded debt.* *	*First charges (net).*	*Gross earnings.*	*Net earnings.*	*Available revenue.*	*Paid as divid.*	*Rate of dividend p.c.*
		The subjoined sums represent million of dollars.							
1881	1,320	29·0	9·91	1·45	8·59	3·96	4·18	2·03	7
1882	1,320	29·0	9·83	1·34	8·90	4·42	4·80	2·03	7
1883	1,928	29·0	38·14	2·68	13·06	6·07	6·57	2·90	10
1884	2,000	29·0	38·08	2·78	12·19	5·52	5·83	2·32	8
1885	2,066	29·0	38·03	2·74	12·62	5·44	5·61	2·32	8
1886	2,069	29·0	46·97	3·01	12·53	5·41	5·66	2·03	7
1887	2,255	40·0	46·93	2·76	13·03	5·39	5·93	2·45	7
1888	1,953	40·0	62·14	2·45	11·82	4·07	4·80	2·40	6
†'89	2,275	40·0	65·38	1·49	6·43	2·40	2·82	2·40	3
1890	2,275	40·0	67·92	3·02	14·45	4·88	5·64	2·40	6
1891	2,875	45·0	62·74	3·24	17·88	5·12	6·31	2·25	5
1892	2,883	45·0	63·21	3·06	19·29	5·22	6·20	2·25	5

* Includes guaranteed leased line stock.
† Half year ending June 30th.

EARNINGS AND EXPENSES.

	1891-92. $	1890-91. $	1889-90. $
Earnings—			
Passenger	4,386,269	3,812,340	3,287,292
Freight	12,806,973	12,160,600	11,335,365
Mail, express and miscellaneous	2,098,518	1,908,615	1,829,365
Total	19,291,760	17,881,555	16,452,022
Operating expenses—			
Maintenance of way, etc.	3,081,789	2,782,828	2,505,489
Maintenance of equipment	2,035,406	1,802,396	1,483,969
Transportation and miscellaneous	8,024,580	7,355,142	6,376,382
Taxes	928,245	870,080	787,669
Total	14,070,020	12,761,046	11,153,419
Net earnings	5,221,740	5,120,509	5,298,603

INCOME ACCOUNT.

	1891-92. $	1890-91. $	1889-90. $
Receipts—			
Net earnings	5,221,740	5,120,500	5,298,603
Net receipts from interest, etc.	913,733	1,168,10[illegible]	731,185
Miscellaneous	61,038	34,905	30,018
Total	6,196,511	6,318,513	6,059,806
Disbursements—			
Int. on Illinois Cent. bonds	1,450,925	1,462,425	1,464,925
Int. on Chi. St. L. & N. O. bonds	1,196,845	1,247,010	1,106,955
Rental Dub. & Sioux C. RR.	776,413	829,169	415,629
Dividends on Ill. Cent. stock	2,250,000	2,250,000	2,400,000
Dividends on leased line stock	400,000	400,000	400,000
Permanent improvements	—	—	213,415
Miscellaneous	98,921	130,027	50,000
Total	6,112,104	6,318,633	6,050,924
Balance	Sur.14,407	Def.119	Sur.8,882

General Balance Sheet.

	$	$
Assets—Northern lines.		
Road and equipment, Illinois Central RR. .	40,512,061 90	
„ Chic. & Springfield RR.	1,602,197 84	
„ Kank & S uthw. RR. .	1,433,999 25	
„ South Chicago RR. . .	234,434.58	
„ Chic. Hav. & West. RR.	1,828,384.72	
„ Rantoul RR.	574,123.31	
„ Chic. Mad. & North. RR.	9,950,151.28	
		56,136,352.88
Southern lines.		
Road and equipment, Chic St. L. & N. Orl. RR	34,602,239.36	
„ C. Aber. & Nashv. RR .	1,902,877.21	
„ Yazoo & Mis. Val. RR .	2,319,760.21	
		38,824,876.78
Materials and supplies	. . . .	1,227,751.28
Stocks owned.	7,570,022 53	
Bonds owned	5,848,600.00	
Net assets	3,895,357 65	
		17,313,979.18
Assets in surplus dividend fund	225,333 83	
Assets in insurance fund.	99,594 72	
		324,928 55
Assets in Cairo Bridge contingent fund . . .	—	100,952.67
		113,928,841.34
Liabilities.—		
Capital stock of I. C. RR. Co.	—	45,000,000.00
Funded debt		
6 p.c Sterling bonds of 1895, £500,000 . . .	2,500,000.00	
6 p.c. Springfield division bonds of 1898 . .	1,000,000.00	
5 p.c. Sinking fund bonds of 1903, £730,000.	3,650,000.00	
5 p.c. Sterling bonds of 1905, £200,000 . . .	1,000,000 00	
5 p.c. Middle division bonds of 1921 . . .	968,000 00	
4 p.c First mortgage gold bonds of 1951. .	1,500,000 00	
4 p.c Gold bonds of 1952	15,000,000.00	
4 p.c. Cairo Bridge bonds of 1950.	3,000,000.00	
3½ p.c. First mortgage gold bonds of 1951.	2,499,000 00	
3½ p.c. Sterling bonds of 1950, £1,053,200 .	5,266,000.00	
	36,983,000 00	
Past due bond	1,000.00	36,984,000.00
Leased line stock of Illinois Central RR. Co.	—	10,000,000.00
Funded debt of Chicago, St. Louis & New Orleans RR. Co.—		
7 p.c. bonds of 1897.	1,367,000.00	
6 p.c. bonds of 1907.	80,000.00	
5 p c. gold bonds of 1951 . . . . $16,547,000.00		
Less owned by Illinois Central RR. Company and pledged to secure £1,053 200, 3½ p.c. sterl. bonds of 1950, shown above 5,266,000.00	11,281,000 00	
4 p.c. gold bonds of 1951, Memphis division . . .	3,500,000.00	
5 p.c. gold Bridge bonds of 1950, $3,000,000, pledged to secure $3,000,000 4 p. c. Cairo Bridge bonds of 1950, shown above		
	16,228,000 00	
Past due bonds	6,000 00	16,234,000 00
Profit and loss	—	4,150,900 12
Set apart to provide for dividend payable September 1, 1892	—	1,125,000 00
Surplus dividend fund	—	225,333.83
Insurance fund.	—	99,594 72
Cairo Bridge contingent fund	—	100,952.67
		113,928,841.34

Bonds owned chiefly consist of $1,907,000 Dub. & Sioux City 5 p.c.

Stocks owned include $7,971,800 Dub. & Sioux City and $1,000,000 Dunleith and Dubuque Bridge Co.

The share capital amounts to $45,000,000, to which must be added $10,000,000 leased line stock; a further issue of $5,000,000 was authorised in October, 1892, to provide for a new station in Chicago ($1,000,000), for elevated tracks in that city ($1,000,000), for additional equipment in connection with the World's Fair ($2,100,000), and for block signals ($900,000). The bonded debt of the Illinois Central proper amounts to $36,984,000, that of the Ch., St. L. and New Orleans to $16,234,000, as specified in the above balance sheet.

With the exception of the Dubuque and Sioux City, which leases the Cedar Falls and Minnesota RR., there are no leased lines. The latter roads brought a suit against the Ill. Central to annul the lease, but the decision of the U. S. Circuit Court was in favour of the I. C.; the case is now before the Supreme Court. The Illinois Central owns all bonds and stock except $113,000 of the Dubuque and Sioux City RR. The subjoined statement relates to these two roads.

	1891-92.	1890-91.	1889-90.
Mileage operated	600	600	600
	$	$	$
Gross earnings	2,657,827	2,558,221	2,004,016
Operating expenses and taxes	1,881,414	1,729,052	6,603,290
Net earnings	776,413	829,169	400,726
Other income	2,113	891	398
Total	778,526	830,060	401,124
Deduct—			
Rent of C. F. & M. RR., paid into Court	113,370	113,370	113,370
Interest on bonds	503,335	471,935	400,760
Interest on notes	—	16,000	14,568
Sinking fund	9,210	9,210	9,210
Ch. & Dak. and C. R. & Ch. bond int. prior to July 1, 1890	56,951	130,549	—
Div. on Dub. & S. City, 1 p.c.	95,660	79,996	—
Total	778,526	830,060	537,908
Balance	—	—	def.136,784

CHAPTER LII.

THE LOUISVILLE AND NASHVILLE SYSTEM.

Like most other great railroad systems, the Louisville and Nashville succeeded in raising itself from a very modest place amongst its fellows to the rank of one of the leading railroads of the United States by means of gradual absorption of other lines and extension; like most other vast systems it owes the major part of its misfortunes to its indomitable desire for greatness. As it was, surrounding conditions were calculated to render eventful the career even of the modest Louisville and Nashville as we knew it about 1870; with the inevitable results of rapid extension superadded to other influences it was natural that the L. and N. had as great a number of ups and downs as any American system, though fortunately it never knew the deep distress that befel other roads pursuing a similar policy.

The company obtained its charter in 1850, and completed its main line from Louisville, the 'tobacco capital' of Kentucky, to Nashville, in the mining region of Tennessee, in 1859. To this road, which was 185 miles long, it added a branch to Bardstown (17 miles) and one of 37 miles connecting with Lebanon,[1] as well as a line to Memphis, Tenn., 46 miles in extent, and thus in 1860 the company operated 285 miles of road. For several years the war prevented extension, but the depression attending the desperate struggle between North and South apparently did not interfere with the prosperity of the company, which declared its first cash dividend (4 p.c.) in 1863 and continued to pay heavy returns until 1873. At first the management hesitated to expand the system; it was doing well, shareholders could gain little by the acquisition of other lines, and hence the system remained small but prosperous until 1870; in that year, however, the directors caught the extension fever, as a result whereof 600 miles of new roads were constructed before the year 1872 had passed away. In 1873 the crisis following the failure of J. Cooke & Co. broke out, and the general depression consequent upon this event caused such a decrease in business and revenue that the company not only had to suspend its dividends, but had to do all it could to resist the strain placed upon its finances, so that extension had to be discontinued for the time being. However, general prosperity soon eliminated all results of a national calamity, and in 1877 the L. and N. resumed cash dividends on a very modest scale; by 1880 it had regained its old vigour and was once more in a position to pay its shareholders 8 p.c., and the management took such roseate views of the future that it declared a scrip dividend of 100 per cent., a step which raised the share capital from nine to eighteen million dollars; in addition the board resumed the policy of extension with a degree of zeal exceeding their discretion. The effects of this bid for greatness were deplorable. In 1881 the dividend was still excellent, amounting to 6 p.c., or 12 p.c. on the old stock; in 1882 it was reduced to 3; in 1883 it ceased altogether, and no cash distribution could be made until 1890, although stock dividends were declared in 1888 and 1889.

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[1] This road was gradually extended to Jellic ; see Map 5

The cause of this change for the worse was twofold: in the first place the new parts of the system were operated at a loss; in the second place there were unfavourable extraneous circumstances. Most of the new lines were bought one after the other; they had belonged to numerous small corporations which succumbed under the strain of critical times, and were sold in foreclosure. Nearly all these properties were bought at a reasonable price, but most if not all of them were in very bad condition, and consequently the L. and N. had to spend vast sums upon improvements. In 1881 the credit of the company reached its zenith, for it had just then paid what practically was a 12 p.c. dividend, and therefore found no difficulty in borrowing money to pay for improvements. But by 1882 the money market had got into a bad state, and as a result of a reduction of its dividend the company's credit declined; and owing to these two circumstances the large floating debt which the L. and N. carried became unwieldy. Relief was, however, afforded by the issue of 6 p.c. collateral trust bonds to the amount of $10,000,000, which had to be disposed of at a low price,[1] and by the sale of shares; but in 1884 renewed difficulties broke out. That year saw the failure of President Baldwin, who ruined himself by stock exchange speculations, and this event not only inflicted a small pecuniary loss upon the company but shook confidence in its position to such an extent that a new floating debt, again resulting from extension, became very burdensome. This debt required heavy disbursements for interest, and in addition considerable expenditure was needed for betterments; consequently the company was once more in a somewhat unsatisfactory condition in spite of there being a large surplus over and above fixed charges. The shareholders, however, were convinced of its intrinsic soundness and had absolute faith in its future; hence they decided to come to the rescue. They held a general meeting, consented to funding of the floating debt, and in addition passed a resolution to the effect that the considerable surpluses, in existence and prospective, should not be distributed as dividends but applied to improvement of the property until 1887. These measures brought great relief, and went a long way towards restoring the line to its former position; yet they fell somewhat short of anticipations, and as the shareholders recognised this when 1887 came, they made another step in the right direction and sacrificed their cash dividends for three more years—until 1890—accepting, however, distributions in scrip instead of the cash, which was put into the property; in addition the whole issue of $10,000,000 6 p.c. collateral trust bonds of 1882 (see above) were redeemed out of the proceeds from the sale of $13,000,000 in ordinary shares, a measure which reduced fixed charges and established the company upon a very sound basis. A cash dividend of 5 p.c. became possible in 1891, and 4½ p.c. was paid in 1892, though the last fiscal year, as will be seen below, was not a very good one owing to the unsatisfactory condition of business in the South.

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[1] These bonds were redeemed in 1889; see below.

During the course of events outlined above constant additions were made to the system, mostly since 1879, and at a pace harmonising with surrounding conditions; even during the fiscal year just closed over 600 miles were added to the company's mileage. The Louisville and Nashville now has a direct interest in 4,732 miles of railroad, of which 2,858 miles are directly operated on its own account. The company divides its lines into eight classes, enumerated below in a detailed statement taken from the report for 1891-92, published in October, 1892.

I.—Owned absolutely or through the ownership of the entire capital stock:		*Length in Miles.*	
Main stem—Louisville to Nashville			185·23
Birmingham Mineral Railroad—			
North branch—Magella to Brick-yard, Y. .	8·02		
Alice branch	·89		
Fossil branch	·63		
		9·54	
South branch—Graces to Bessemer	11·57		
Muscoda branch—Sloss to Muscoda. . . .	1·20		
		12·77	
Blue Creek exten.—Blue Creek Junc. to Blocton Junc.		27·08	
Dudley branch—Yolande to Brookwood		9·01	
Pioneer branch—Chamblee to Goethite		3·65	
Huntsville branch—Bessemer to Oneonta		49·30	
GurleyCreek—Village Springs to Comptons. . . .		4·05	
Limestone Spur		1·18	
Self Creek-Palmers to Comptons		4·30	
Brown Ore—Spur-Oneonta to Champion.		3·50	
Gate City branch—Boyles to Trussville.		17·14	
Red Gap branch—Gate City to Graces		10·28	
Helena & Blocton—Helena (Tacoa) to Piney Woods.		10·04	
			161·84

(*Continued next page.*)

	Length in Miles.	
Alabama Mineral Railroad—Attalla to Shelby	107·75	
Shelby to Calera	11·34	
Shelby to Columbiana	5·82	
		124·91
Mobile & Montgomery R'y—Montgomery to Mobile		178·49
New Orleans & Mobile RR.—Mobile to New Orleans		140·38
Pontchartrain RR.—Pontchartrain Junc. to Milneburg		5 18
Bardstown branch—Bardstown Junction to Bardstown		17 37
Springfield branch—Bardstown to Springfield		20·07
Knoxville branch—Lebanon Junction to Jellico		171·17
Cumberland Valley branch—Corbin to Norton		116 38
Memphis line—Memphis Junction to Memphis		259·13
Owensboro & Nashville Railway—		
Owensboro to Adairville	84 00	
Mud River branch—Penrod to Mud River mines	4·49	
		88·49
Clarksville & Princeton br.—PrincetonJunc to Gracey		32 00
Clarksville Mineral branch—Hematite to Marion		14·10
Henderson division—Edgefield Junction to Henderson	134·71	
Madisonville branch—Madisonville to Providence	16·20	
		150 91
St. Louis division—Evansville to East St. Louis	162·00	
Shawneetown branch—McLeansboro Junction to Shawneetown	40 14	
O'Fallon branch—O'Fallon Junction to O'Fallon	6 00	
		208·14
Pensacola & Selma div.—Gulf Junction to Pineapple.	35·61	
Escambia Junction to Repton	29 36	
		64·97
Pensacola division—Flomaton to Pensacola		44 54
Pensacola & Atlantic RR.—Pensacola to River Junct		160·28
Cincinnati division—Louisville to Newport		108 65
Lexington branch—La Grange to Lexington		67·01
Lou. Harrod's Cr'k & West. RR.—Louisville to Prospect		11·16
Kentucky Central Railway		
Covington to Livingston	149 88	
Maysville to Paris	49·46	
Paris Junction to Lexington	17·94	
Estill Junction to Rowland	30.43	
		247·71
II.—*Lines over which this company runs its trains, the earning sof which accrue to this company.*		
Birmingham Mineral RR.—Blocton to Blocton Junction	7·91	
Piney Woods to Blocton	14·41	
		22·32
III.—*Operated under lease, earnings in excess of fixed charges accruing to this company.*		
Nashville & Decatur Railroad—Nashville to Decatur	119 24	
Shelby Railroad—Anchorage to Shelbyville	19·10	
Railway transfer-East Louisville to South Louisville	4·13	
		142·47
IV.—*Operated for account of the South and North Alabama Railroad Company.*		
So. & No. Alabama RR.—New Decatur to Montgomery.	182·37	
Wetumpka branch—Elmore to Wetumpka	6·30	
		188 67
Total Louisville & Nashville system		2931·57

(Continued next page.)

		Length in Miles.	
V.—*Operated under lease for account of the various companies.*			
Southern division, Cumberland & Ohio Railroad—Cumberland & Ohio Junction to Greensburg		30·90	
Northern division, Cumberland & Ohio Railroad—Shelbyville to Bloomfield.		26·72	
Glasgow Railroad—Glasgow Junction to Glasgow. .		10·50	
Elkton & Guthrie Railroad—Elkton Junction to Elkton		10·92	
Mammoth Cave RR.—Glasgow Junc. to Mammoth Cave		8·38	
			87·42
VI.—*Lines in which this company in interested as owner of a majority of the capital stock in the company that operates the road.*			
Nashville, Chattanooga & St. Louis Railway . . .		810·00	
Nashville, Florence & Sheffield Railway—			
Columbia to Sheffield	82·13		
West Point branch—Iron City to Pinkney .	11·78		
Napier branch—Summertown to Napier . .	10·92		
		104·83	
Henderson Bridge and connecting track.		10·06	
			924·89
VII.—*Lines in which this company is interested as joint lessee with the Central Railroad Co. of Georgia.*			
Georgia Railroad and dependences.			721·00
VIII.—*Lines owned, but not operated by this company.*			
Cecelia branch, Louisville to Cecelia Junction (leased to Ches. Ohio & Southw. Ry. at $60,000 per annum) .		46·00	
Clarksville & Princeton br., from Gracey to Princeton (leased to Ohio Val. RR. Co. at $12,069.70 per annum).		20·70	
			66·70
Total mileage.			4,731·58

(All subjoined statements for 1891–92 relate to the L. & N. system proper, embracing 2,857·91 miles of road.)

This complex system, the geographical situation of which will be elucidated by a reference to Map 5, centres in Nashville and the mining districts of Kentucky and Tennessee, whence lines reach out to St. Louis, Memphis, New Orleans, Pensacola, River Junction, Atlanta, Norton, Cincinnati, Louisville, etc. The system therefore taps the mineral districts of Kentucky and Tennessee and the coal and iron region around Birmingham, and traverses the cotton belt, forming direct and short communication over its own lines from Cincinnati, Louisville, Nashville and Birmingham to New Orleans, from St. Louis to Louisville, Cincinnati, Nashville and Atlanta, and from Memphis to Louisville and Cincinnati. Since June, 1891, the road connects at Norton with the Norfolk and Western, in conjunction with which it forms a through "line" between St. Louis and Memphis on the one hand and the seaboard on the other, and as a result of this new connection its shipments of cereals and cotton have considerably increased. Needless to say the company's welfare is closely interwoven with the prosperity of the cotton planters and with the state of the Southern coal and iron trades, which of late have not been in a satisfactory condition.

As a result of the uninterrupted growth of the system its capital has constantly increased. In 1877, with 650 miles of road owned, it consisted of $9,000,000 shares and $16,484,000 bonds; in 1892, with 2,578 miles owned, there are $52,800,000 stock and $75,397,000 bonds outstanding; the company holds, however, some $21,000,000 in shares and bonds, mostly deposited in trust to secure its own issues, and this sum must be deducted in order to find its net capitalisation, which amounts to about $55,400,000 bonds and $51,500,000 shares, a moderate figure not much in excess of $20,000 of each per mile. Subjoined is a statement of the company's share capital, of the dividends paid thereon since its foundation, and of its funded debt and the interest it requires.

Share Capital :—

Common Stock, (par $100) $22,800,000

Dividends paid by the L. and N. RR. since its foundation.

1863	4 p. c.	cash	1872	7 p.c.	cash	1880	100 p.c.	stock	1889	5 p.c.	stock
1864	8 „	„	1873	7 „	„	1881	6 „	cash	1890	4·9 „	„
1865	8 „	„	1874	none		1882	3 „	„		1·1 „	cash
1866	8 „	„	1875	none		1883	none		1891	5 „	„
1867	8 „	„	1876	none		1884	none		1892	4½ „	„
1868	7 „	„	1877	1½ p.c.	cash	1885	none				
1869	8 „	„	1878	3 „	„	1886	none				
1870	7 „	„	1879	4 „	„	1887	none				
1871	7 „	„	1880	8 „	„	1888	5 p.c.	stock			

Bonded Debt, June 30th, 1892.

Description of Bonds.	*Amount.*	*Maturity*	*Rate of interest.*	*Coupons due.*	*Amount of interest.*
	$		p.c.		$
City of Louisv. Acc. Leb. br. ext.	333,000	1893	6	Apr., Oct.	19,980
*Ten-forty Adjustm.	4,531,000	1894 1924	6	May, Nov.	271,860
Louisv. Cinc. & Lex. Ry. mort.	2,850,000	1897	7	Jan., July	199,500
Consol. mort. Mainstem and br.	7,070,000	1898	7	Apr., Oct.	494 904
*Memph. & Ohio RR. sterl. mort.	3,500,000	1901	7	June, Dec.	248,780
*Memph., Clarksv. & Louisv. RR. sterl. mort.	2,015,660	1902	6	Feb., Aug.	121,540
*a*Cecelia branch mort.	801,000	1907	7	Mar., Sep.	54,600
Louisv. Cinc. & Lex. Ry. 2nd mt.	892,000	1907	7	Apr., Oct.	62,440
*b*Evansv., Henderson & Nashv. div. 1st mort.	2,241,000	1919	6	June, Dec.	133,500
Pensacola div. 1st mort.	580,000	1920	6	Mar., Sep.	34,800
Southeast & St. L. div. 1st mt.	3,500,000	1921	6	" "	210,000
Pensac. & Atl. RR. 1st mort	1,970,000	1921	6	Feb., Aug.	117,270
*New Orl. & Mobile div. 1st mt.	5,000,000	1930	6	Jan., July.	300,000
New Orl. & Mobile div. 2nd mt.	1,000,000	1930	6	" "	60,000
**c*General mortgage bonds	11,458,000	1930	6	June, Dec.	682,880
Louisv. Cinc. & Lex. Ry. gen. mt.	50,000	1931	6	May, Nov.	3,000
First mort. 5 p.c. trust	5,129,000	1931	5	" "	256,450
*First mort. 5 p.c. 50 yr. gold	1,764,000	1937	5	" "	88,200
Southeast. & St. L. div. 2nd mt.	3,000,000	1980	3	Mar., Sep.	90,000
*Unified 50 yr. 4 p.c. gold mort.	10,571,000	1940	4	Jan., July.	422,840
Ky. Cen. Ry. 1st mort.	6,523,000	1987	4	" "	260,920
Maysv. & Lex. RR. North. div. 7 p.c	400,000	1906.	7	" "	28,000
Maysv. & Lex. RR. South. div. 5 p.c.	219,000	1895.	5	June, Dec.	10,950
	75,397,660				4,172,394

* = Quoted in London.

a $1,000 of these bonds drawn for sinking fund due March 1, 1891, but no presented for redemption. Interest ceased on September 1, 1891. Also $40,000 of these bonds drawn for sinking fund due March 1, 1892. Interest ceased September 1, 1892.

b $1,000 of these bonds drawn for sinking fund due Dec. 1, 1891, but not presented for redemption. Interest ceased on Dec. 1, 1891.

c $77,000 of these bonds drawn for sinking fund due June 1, 1892, but not presented for redemption. Interest ceased on June 1, 1892.

NOTE.— The report for 1891-92 estimates the interest charges for 1892-93 at $4,836,438, this sum including guarantees of other bonds and deductions made for bonds in trust and sink-funds. The company guarantees bonds of other companies to the amount of $15,715,962 (interest $851,104).

Speaking broadly, the earning capacity of the Louisville and Nashville has kept pace with the growth of its mileage and capital; the only serious decline that has to be recorded occurred during the year just closed. In 1891-92 there was a decrease in gross earnings per mile of $911, while net revenue per mile of road fell $578, and thus the addition of 607 miles effected during the last fiscal year has materially reduced the *pro rata* earning power of the property. The fact should not be lost sight of that part of this decline in earnings per mile is due to the bad condition of business in the South, while net earnings were reduced by a rise in working expenditure caused by floods, etc.; but these adverse circumstances do not account for a falling off for the year equal to nearly 20 p.c. in net earnings per mile. Apparently the directors are aware of this fact, and give a curious explanation. They quote figures to prove that the system as it existed on June 30th earned almost as much in 1891-92 as in the preceding year, and in this they see ground for satisfaction—with what reason it is impossible to discover. It is just this calculation which shows of how little use the new mileage is. There cannot be much doubt that for the third time in its history the L. & N. has indulged in extension with more energy than judgment, although the position of the company, as is shown by subsequent tables, is so strong that this mistake will have no very injurious affects. In 1891-92 the company earned a fair dividend in spite of the bad state of trade and the great proportion of unremunerative mileage; it is easy to infer what the property will be capable of in good times and with a better traffic on its new roads.

The growth of revenue and traffic is shown by the following tables:—

Revenue Statistics, Louisville and Nashville System.

Years ending June 30th.	*Average mileage operated.*	*Gross earnings*	*Operat. expenses.*	*Net earnings*	*Gross earnings per mile.*	*Operat. expenses per mile.*	*Net earnings per mile.*	*Perct. of expen. to earnings*
		$	$	$	$	$	$	
1880	1,190	7,394,515	4,173,302	3,221,213	6,210	3,505	2,705	56·44
1881	1,768	10,812,935	6,631,864	4,831,071	6,112	3,749	2,363	61·33
1882	1,912	11,911,439	7,371,011	4,540,427	6,229	3,854	2,374	61·88
1883	2 014	13,144,714	8,015,737	5,128,976	6,525	3,979	3,546	60 98
1884	1,907	14 261,383	8 823,782	5,437,603	7,139	4,417	2,722	61·87
1885	1,969	13,847.143	8,104,789	5,742,354	6,961	4,074	2,886	58·53
1886	1,943	13,076,705	8,126,506	4,950,288	6,728	4,181	2,547	62·15
1887	1,943	14,979 992	8,953,502	6,026,490	7,707	4,606	3,100	59·77
1888	2,027	16,260.241	10,267,535	6,092 706	8,071	5,065	3,006	62 76
1889	2,161	16,599,396	10,326,085	6,273,310	7,679	4 776	2,902	62·21
1890	2,198	18,846,003	11,419,092	7,426,911	8,573	5,194	3,378	60 59
1891	2 250	19,220,728	12,058,444	7,162,284	8,541	5,358	3,182	72·74
1892	2,858	21,235,721	13,702.122	7,443,599	7,430	4,825	2,604	64·95

Traffic Statistics, Louisville and Nashville system.

Years ending Jun. 30th.	*Average mileage opera'ed.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate, — Cents.*	*Revenue, — $*	*Million tons carried one mile.*	*Rate, — Cents.*	*Revenue, — $*
1877	941	41·9	3 37	1,410,933	202·1	1.71	3,455,704
1878	966	42 0	3.30	1,425,128	224·7	1.66	3,726,643
1879	973	36·8	3.44	1,267,797	237·1	1.53	3,627,975
1880	1,840	48·4	3.72	1,700,207	319 7	1.61	5,135,986
1881	1,872	82·4	3.17	2,569,353	493·0	1.50	7,407,403
1882	2,028	111 1	2 71	3,007,405	596 6	1.35	8,050,339
1883	2,065	129·3	2.61	3,379,178	664·1	1.32	8,786,574
1884	2,065	171 4	2.32	4 013,396	697·0	1.30	9,233,671
1885	2,057	198·2	2.10	4,169,125	750·9	1.16	8,703,975
1886	2,022	143·5	2 45	3,494,832	802 4	1.10	8,655,860
1887	2,022	161·2	2 36	3 859,525	952 1	1.04	10,254,498
1888	2,027	173·3	2 41	4,224,413	997·1	1.07	11,081,650
1889	2,161	167·1	2 36	4,086,362	1,077 2	1 01	11,325,235
1890	2,198	191·7	2 42	4,704,706	1,250·8	0 98	12,845,951
1891	2,250	192·6	2 43	4,800,066	1,293·7	0.97	13,113,965
1892	2,858	207·4	2.44	5,137,017	1,510·1	0.93	14 604,200

The subjoined tables give full details of equipment, earnings, expenses, income and expenditure for the last five fiscal years:—

ROAD AND EQUIPMENT.

	1891—92.	1890—91.	1889—90	1888—89	1887—88.
Mileage operated*.........	2,858	2,250	2,198	2,161	2,027
Equipment—					
Locomotives...............	532	540	480	449	413
Passenger cars...........	422	416	345	345	229
Freight cars	—	17,047	15,780	14,067	11,546
Roadway equipment......	18,131	415	373	270	184

EARNINGS AND EXPENSES.

	1892—92	1890—91.	1889—90.	1888—89.	1887—88.
Earnings from—	$	$	$	$	$
Freight.	14,604,269	13,113,965	2,845,951	11,325,235	11,081,650
Passengers	5,137,017	4,800,666	4,704,769	4,036,382	4,224,413
Mails	507,136	431,026	422,770	419,050	357,193
Express.	455,627	427,425	406,294	368,139	350,811
Miscellaneous.	531,681	447,625	466,228	450,610	346,174
Total gross earnings. .	21,236,712	19,220,729	18,846,004	16,599,396	16,360,241
Operating expenses—					
Transportation	5,176,354	4,752,901	4,458,786	4,164,505	
Motive power.	3,195,008	2,738,354	2,633,130	2,218,296	
Maintenance of cars . . .	1,505,317	1,267,128	1,196,718	1,023,853	
" " way, etc..	2,404,670	2,097,670	2,040,534	1,868,386	
General.	1,510,731	1,202,391	1,090,123	1,058,076	
Oper. expenses (excl. tax).	13,792,122	12,051,434	11,419,092	10,326,065	10,267,535
Net earnings	7,443,600	7,152,285	7,426,912	6,273,311	6,092,706
P.c. of expenses to earnings	64·95	62·74	60 59	62·21	62·76

INCOME ACCOUNT.

	1891—92.	1890—91.	1889—90.	1888—89.	1887—88.
Receipts—	$	$	$	$	$
Net earnings	7,443,600	7,162,285	7,426,912	6,273,311	6,092,706
Income from investments.	533,293	657,217	638,686	677,109	528,828
Georgia RR. profit	—	60,658	—	—	—
Total income	7,976,893	7,880,160	8,065,598	6,950,420	6,621,534
Disbursements—					
Taxes	513,165	410,810	397,721	401,112	375,557
Rentals.	4,860,878	4,207,629	4,524,694	15,000	15,000
Interest on debt, etc. . .				4,590,493	4,370,803
Georgia RR. deficit	124,695	—	90,339	23,376	3,458
Deficit other RR.	128,001	205,501	186,203	199,425	238,943
Dividends.	2,376,000	2,400,000	2,405,367	1,594,800	1,518,000
Total disbursements. .	8,002,759	7,223,933	7,604,323	6,824,206	6,530,765
Balance.	def. 25,866	sur.656,227	sur.461,275	sur.126,214	sur 90,769

It will be seen that the year just closed left a balance of $2,350,134 over and above all fixed charges, and out of this sum a 4½ p.c. dividend was paid; the latter required $2,376,000, and it was therefore necessary to take $25,866 from previous surpluses. As we have previously remarked, this was the fiscal result of a bad year, when the company had just increased its capital and was saddled with new and unremunerative mileage, and it is therefore superfluous to state that the position of the Louisville and Nashville is eminently satisfactory. The company is in a prosperous and sound condition which will continue to improve as time goes on.

Subjoined comparative balance sheets further illustrate its strength. The most noteworthy fact in connection with the statement of assets and liabilities for 1891-1892 is the reduction of the company's floating debt, connected with the issue of new capital. Its current assets now exceed its current liabilities by more than four million dollars, whereas a year ago the difference amounted to but one million.

GENERAL BALANCE, JUNE 30.

	1892.	1891.	1890.	1889.	1888.
	$	$	$	$	$
Assets—					
Road, equipment etc. .	102,963,406	88,157,257	77,790,155	73,739,905	72,104,190
Timber, lands, etc. . .	757,330	654,603	358,240	322,434	474,091
Stocks owned.	1,226,624	4,721,889	2 224,884	1,974,494	1,921,307
Bonds owned.	3,561,931	4,751,060	5,749,852	5,507,294	7,223,059
Stock and bonds in tr.[1]	16,407,229	16,121,944	14,447,878	13,966,878	12,027,878
Bills and acc. receiv. .	3,456,330	3,395,901	3,049,822	2,677,133	2,907,420
Materials, fuel, etc. . .	1,396,410	1,492,095	1,282,871	1,099,429	1,218,018
Cash on hand.	710,807	924,349	493 432	719,695	213,987
So. & No. Ala. RR. . .	505,560	333,362	51,130	933,948	615,500
Nash. & Dec. RR. . . .	926,041	901,027	846,878	771,938	663,591
Other roads.[2]	913,380	1,354,422	985,092	607,507	465,842
Sinking fund, etc. . .	614,061	506,435	419,625	335,731	—
Profit and loss	—	—	1,255,403	--	—
Total assets. . . .	133,471,138	123,304,959	109,755,241	102,837,406	99,834,892
Liabilities—					
Stock.	52,800,000	48,000,000	48,000,000	33,112,800	31,518,000
Bonded debt[3].	75,397,660	66,722,660	57,643,910	65,726,660	64,046,660
Bills payable.	174,996	3,294,574	683,229	193,269	474,220
Interest.	837,203	809,914	501,446	531,500	527,360
Sundry accounts[4]. . .	1,630 082	1,993,570	1,097,262	443,601	1,444,822
June pay-rolls, etc. .	1,512,718	1,777,080	1,829,304	1,556,878	314,865
Income account. . . .	630,360	656,226	—	—	—
Profit and loss	71 803	50 935	—	1,272,779	1,508,950
Suspense account. . .	416 256	—	—	—	—
Total liabilities. .	133,471,138	123,304,959	109,755,241	102,836,49	99,834,892

[1] Less bonds pledged.
[2] Advances, etc.
[3] The bonds deposited in trust have been deducted here.
[4] Includes dividends and "due sundry persons."

Among the numerous subsidiary companies there are only two with regard to which it is necessary to give details — the Nashville, Chattanooga and St. Louis RR. and the Georgia RR. The *Nashville, Chattanooga and St. Louis*, which on Map 5 is treated as part and parcel of the L. and N., operates 810 miles of road running from Hickman on the Mississippi to Atlanta, via Nashville and Chattanooga, with several branches extending into the mining district of Tennessee. The capital of the company consists of $10,000,000 common stock and $14,130,000 bonds. Of the stock the L. and N. owns $5,077,500 and the interest on these shares received by the L. and N. figures among its revenue from investments. I avail myself of the kind permission of the proprietors of the *Chronicle* to quote the following from their *Investor's Supplement*:—

INCOME ACCOUNT

	1891–92.	1890–91.	1889–90.	1888–89.
Mileage, end of year	810	652	652	652
	$	$	$	$
Gross earnings.	5,353,298	3,943,304	3,550,460	3,300,165
Net income.	2,060,896	1,657,063	1,430,414	1,348,721
Interest on debt and taxes . . .	950,515	914,799	873,366	869,696
Rental, W. & A. RR.	420,012	——	——	——
Dividends, p. c.	(5) 500,000	(5) 333,427	(5) 333,427	(5) 333,426
Improvements	118,111	142,617	85,861	60,903
Total disbursements. . . .	1,988,638	1,390,843	1,292,606	1,264,025
Balance, surplus	72,258	266,220	137,118	84,696

The Central *Georgia RR.*, which figures on Map 5 as part of the Richmond Terminal system, runs from Atlanta to Augusta with a branch to Macon, and since 1881 has been leased to Mr. W. M. Wadley in the interest of the Central RR. and Banking Co. of Georgia and the Louisville and Nashville, each of which pays an annual rental of $300,000. The company has a very small capital, only $4,200,000 shares and $2,500,000 bonds being issued, and has an interest in a bank. The dividends paid since 1880 range between 9½ and 11 p.c. In 1890-91 the L. and N. made a small profit over the lease, but the operation of this property usually results in loss; in 1891-92 the deficiency was abnormally high, viz., $124,695.

CHAPTER LIII.

THE NORFOLK AND WESTERN.

In 1851 the Norfolk and Petersburg Railroad Company obtained a charter for the construction of a railway which was to connect Norfolk, Va., with Petersburg, some 20 miles South of Richmond, Va. This line was amalgamated with the South Side RR.—chartered in 1846 and completed in 1854—and with the Virginia and Tennessee, opened in 1857. All these roads were controlled by the State of Virginia, which owned a considerable proportion of their bonds and shares, but after a while they were consolidated into the Atlantic, Mississippi and Ohio RR. This corporation defaulted on its interest in 1875, with the result that it was placed in the hands of a receiver and sold in 1880 to Mr. C. H. Clark. In May, 1881, that gentleman organised the Norfolk and Western Railroad, to which his property was transferred, the company starting with a capital of $18,000,000 in shares and $11,000,000 in bonds, the majority of which were held by its founder. Since 1881 the system has been considerably extended, especially in the last three years, during which time it was elevated from the position of a local line to that of one of the most important and flourishing railroads of the South.

The N. and W. system consists of the following lines, all of which are shown on Map 5:—

Lines owned and operated.

		Main Line	
Norfolk to Bristol		408·30	miles.
Branches	36·38 miles.		
Roanoke to Hagerstown		238·11	„
Branches	21·27 „		
Cripple Creek Junction to Gossan		45·81	„
Branches to iron mines	21·98 „		
Radford to Powhatan		83·01	„
Branches to coal mines	21·70 „		
Graham to Norton		100·40	„
Branches to coal mines	6·63 „		
Kenova to Columbus		136·80	„
		1,012·43	„
Branches		107·96	„
Total mileage in operation, Jan. 1st, 1892.		1,120·39	„

To these lines must be added the following, operated under lease since March, 1892:—

Lynchburg and Durham Railroad:		
Lynchburg to Durham	115	miles.
The Roanoke and Southern Railway:		
Roanoke to Winston-Salem	121·3	„
Total operated, August, 1892	1,456·69	„

The Ohio extension, which was opened for traffic in October, 1892, and the Washington extension, which is rapidly approaching completion, will have an approximate length of 250 miles, increasing the total length of the system to some 1,700 miles. 42 miles are double-tracked, and there are 332 miles of sidings.

Norfolk is the Easternmost, and at the same time the principal terminus of the system. Situated near the point where the James River and the waters of Chesapeake Bay meet the Atlantic Ocean, and connected with the interior by the Norfolk and Western RR., the Atlantic Coast Line and the Seaboard Air Line (see Map 5) this town has in recent years grown at a pace commensurate to the rapid development of the mining and farming regions of Virginia, Carolina and Tennessee, and consequently has overshadowed

Newport News, the terminus of the C. & O., situated opposite; moreover, it is destined to grow still further, for not only has the development of Virginia's agricultural and mining resources hardly begun, but it is only a few weeks since the completion of the Ohio extension of the Norfolk and Western gave Norfolk a very direct route to the West and notably to the Southwest, and raised it to the rank of a 'seaboard point.' The town has regular steamship communication with Northern ports, and it is said that negotiations have been opened with a London steamship company which, if successful, will provide for a regular line of steamers to Europe. The population, which of late has expanded at a marvellous rate, now numbers 30,000, and is so thoroughly aware of the prospects of the town that there are not less than 65 companies engaged in improving, extending and booming it.

The principal freight terminus of the Norfolk and Western lies a little beyond Norfolk itself, in Lambert's Point, where the company has spacious stores for coal and merchandise, extensive wharves and warehouses, an electric light plant, etc., everything almost new and therefore in perfect condition. The ever-growing traffic requires constant additions to these terminal facilities, which are supplemented by those to be found in Norfolk itself. During the current year considerably upwards of 100,000 loaded cars, the equivalent, say, of 2½ million tons of freight, will be carried to tidewater; and when the Ohio extension is in full operation a further increase must be looked for, because to all intents and purposes the Norfolk and Western is a trunk line from the moment the first through train runs from Columbus to Norfolk. Norfolk is also the terminus of various independent railroads connecting with points in Carolina, and it is the intention of the Norfolk and Western to build a belt road joining these local lines with its own terminus, the result of which will undoubtedly be that the town's importance as a centre of distribution will be materially increased.

From Norfolk to Roanoke a single line of rails leads through a country which becomes more mountainous as we approach the Alleghanies. One sees numerous farms and negro cabins, the latter consisting mostly of wooden shanties with brick chimneys at the side. The country has by no means a prosperous appearance, and, indeed, its exploitation is of but very recent date. Yet it offers great advantages for truck farming, the crops being from four to six weeks earlier than further North, and in consequence Virginia vegetables always realise excellent prices in New York, Philadelphia, and the other great markets of the North. This naturally tends to encourage the rapid development of the entire district, which, by the way, is also famous for its production of peanuts. Some 200 miles West of Virginia connection is made with the Lynchburg and Durham RR., which since April, 1892, has been operated under lease by the Norfolk and Western. This line gives access to a region well adapted to farming, and establishes communication with Wilmington, Charleston, and other Southern ports which are large consumers of coal, a fact which renders direct connection with them highly desirable to the Norfolk and Western, which is always striving to create new markets for the fuel that forms the bulk of its freight.

Two hundred and fifty miles West of Norfolk we find Roanoke, the heart of the system, where its principal arteries meet. It is the type of a booming Southern city, the progress of which affords striking proof of the immense creative power of an American railway. Roanoke has been made entirely by the Norfolk and Western, and with real estate representing many millions makes us envious of those who were 'in the know' before it entered upon its marvellous career; its rise clearly shows that it is not necessary to resort to any of the doubtful, disreputable or dishonest practices of bygone days in order to amass wealth over 'railroading.' The population of Roanoke is about 25,000, although the town is still in its teens. It contains the workshops of the railway and its executive offices, and there are several blast furnaces, numerous well-paved streets—some of them provided with tramways—excellent stores, good hotels, and gorgeous residences.

In Roanoke the Shenandoah Valley division and the Roanoke and Southern join the main line; the Shenandoah road runs North and terminates in Hagerstown, Md., where it connects with the Pennsylvania and Philadelphia and Reading railroads. This line abounds with charming scenery, and runs through a country studded with mineral springs and summer resorts. A few hours from Roanoke there is one of the most peculiar sights in Virginia—the Natural Bridge which spans a rivulet and joins two mountains; George Washington carved his name in the rock while still in the employ of the survey service. The Shenandoah line renders the N. and W. part of a through route between the East and the South which is a formidable rival of both the Baltimore and Ohio's Lexington line and the Richmond and Danville; yet the Norfolk and Western will scarcely rank among the leading passenger routes as long as it has no better terminus than the one in an obscure point like Hagerstown. The line must have access to a leading town, and this want being recognised by the management, the Washington extension, which is now under construction, was planned. This branch will bring the system in close touch with the North, and connecting with the Louisville and Nashville for the South the road cannot fail to become one of the shortest and best routes between New York and New Orleans. In Roanoke the main line also meets the Roanoke and Southern Railway, leased since March, 1892, which at present connects with Winston-Salem but will be extended to Wadesboro, where it is to meet the Atlantic Coast Line for Charleston, S. C., and Carolina points generally.

From Roanoke the main line runs West to Radford, another important freight centre where various lines meet.

Traffic between Roanoke and Radford is so heavy that this part of the system is provided with double track. In Radford there is a bifurcation, one line going to Bristol and Pulaski, the other to Norton, the Pocahontas district, and the Ohio. The line to Pulaski leads to the iron mines, and has many branches South and Southwest of that city. The road to Bristol connects with the East Tennessee and Virginia RR. and formerly did a considerable exchange business with that part of Gould's Southern system: in fact at one time Gould was credited with the intention of acquiring control of the Norfolk and Western. The branch to Norton, however, is of far greater moment, for since the Louisville and Nashville completed its Cumberland Gap extension the N. and W. has had direct communication with New Orleans, Cincinnati, Louisville, and St. Louis, and receives a considerable volume of grain freight from the West and of cotton from the South, in exchange for which it gives coal, coke, etc. The increase in cotton freights has been very remarkable; the volume of this traffic having risen from 150,000 bales in 1890 to 247,000 in 1891. Yet the line to Norton is by no means as important as the main road leading to the so-called Pocahontas or Flat Top coal district, which as is well known provides most of that mineral traffic the marvellous growth of which had such decided effect upon the development of the N. and W. The line to these coalfields has been extended to Kenova, Ky., whence a hitherto isolated part of the Norfolk and Western leads to Columbus, O., via Ironton, where it connects with the Cincinnati, Portsmouth and Virginia RR. for Cincinnati. In some quarters this last line is regarded as a future part of the N. and W. system, and if acquired Cincinnati will have a second direct route to Chesapeake Bay in every respect equal to the Chesapeake and Ohio, thus far its only connection with the James River.

The Pocahontas coal district, to which we have just referred as the principal source of the traffic of the Norfolk and Western, is a mining region in the Alleghanies which only a few years ago entered into competition with the older fields of Pennsylvania, etc. The district is locally known as Flat Top, and is situated at the highest elevation reached by this railroad, which has hitherto had the monopoly of the coal traffic it provides, and is likely to retain the same. Being separated from the East by a distance considerably greater than that lying between the Pennsylvania fields and Philadelphia or New York, Pocahontas coals could not possibly compete with Pennsylvania fuel unless they were carried to the seaboard at exceedingly low rates, and Mr. Kimball, during whose presidency the development of these mines was begun, deserves no small amount of credit for the far-sightedness which induced him to try a bold experiment. Until a few years ago American railroads adhered to the maxim that a railroad should charge as much as it possibly could. Mr. Kimball, however, tried the opposite course and charged as little as possible; in other words he endeavoured to encourage coal mining by means of unusually cheap rates, and thereby succeeded in creating a prosperous industry, the marvellously rapid development of which has engaged the attention of the entire country, and notably of the American railway world.

Mineral Traffic of the N. and W., 1882-1891. (Tons.)

Year.	*Iron Ore.*	*Pig. Iron.*	*Coal.**	*Coke.**	*Stone.*	*Zinc ore and Spelter.*	*Other minerals.*	*Totals.*
1882.....	1,380	13,372	4.735	....	6,181	3,302	19,262	48,311
1883.....	51.915	24,611	54,552	23,762	20,217	777	23,113	198,947
1884.....	49,302	28,591	153.229	56,360	27,718	1,185	30,991	347,376
1885.....	60,825	23,209	499,138	48,571	15,633	1,021	36,834	685,271
1886.....	65.851	34,917	739,618	50,021	24.451	1,437	36,671	961,366
1887.....	128,696	48,642	999,260	151,171	30,948	8,577	50,255	1,417,549
1888.....	195,350	95,369	1,543,312	202,806	49,573	15,479	58,504	1,960,415
1889.....	249,374	161,215	1,543,900	310,504	87.965	15,298	68,506	2,436,757
1890.....	480,064	235,844	1,892,969	499,148	187,683	14,420	247,821	3,558,869
1891.....	539,339	283,590	2,341,226	466,016	247,863	18,672	258,178	4,154,884

* In 1891 52 p.c. of all coal and coke carried went to tidewater.

In 1880 there was no such thing as Pocahontas coal, and in 1883 but little more than 100,000 tons were mined; in 1887 more than 1,300,000 tons were brought to the surface, in 1891 nearly 3,300,000; and if the iron industry is in fair condition the output is expected to reach 4,000,000 tons during the present year. Moreover, the Ohio extension will give access to Western markets, so that the output will go on increasing year after year for a long time to come.[1] The rates charged for carrying these coals to their destination are so low that on the N. and W. the average freight rate per ton per mile amounts to less than on any other road, with the sole exception of the Chesapeake and Ohio, namely 0.548 cents; at the same time the cost of transportation has been cut down to such a degree that the company still makes a profit of 0.187 cents per ton per mile — a figure higher than on most American roads, and chiefly due to the technical perfection which the management has imparted to the property. Indeed, the N. and W. is looked upon as an example of what a shrewd and enlightened management can do for a railroad. Undoubtedly Mr. Kimball applied his recognised abilities under exceptionally favourable conditions. In the first place all coals are carried down grade, the Flat Top being situated at the highest elevation reached by the N. and W. It does not matter whether the freight is to be carried to Norton, Norfolk, or the Ohio: the trains always run along a decline, and transportation of coals being profitable anyhow, it can cause little wonder that under such circumstances the experiment succeeded, especially as the cost of mining, owing to the peculiar formation of the Flat Top Mountain is very low; in some places the trains run directly into the mines. Nevertheless he deserves great credit for the able manner in which he made the most of natural advantages. How highly the management of the Norfolk and

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[1] While the proofs of this chapter were being corrected a report was current to the effect that the N. and W. had entered into a contract with the Hocking Valley RR., which its Ohio extension meets in Columbus, for the daily shipment of 3,000 tons of coal to Cleveland, O.

Western and its beneficial influence upon this young but vigourous industry is spoken of may be inferred from the fact that a recent U. S. Census Bulletin (No. 200) says:—

"To the energy and push of the officials of the Norfolk and Western railroad is due the rapid development of this great coal field."

The foregoing shows that the conditions surrounding the Norfolk and Western RR. have changed to a considerable extent. Originally a line from Norfolk to Bristol, where it connected with the East Tennessee and Virginia, the road has by degrees developed into one of the principal mineral carriers of the country whose principal aim is the transportation of Pocahontas coals to Norton, Bristol, Norfolk, Washington and Columbus, and in addition the system has become a through line between the Central States and the seaboard, and part of one of the leading routes between the East and the South. This rapid conversion involved other changes of the greatest importance. The necessity of new extensions and the expediency of absorbing other lines in order to secure connections caused a considerable increase of mileage, and in addition a perfect roadbed was essential to enable the company to carry freight at low rates and yet at a profit. Both wants were provided for; the absorption of the Shenandoah Valley, Roanoke and Southern, and Lynchburg and Durham Railroads, and the construction of the Washington, Ohio and Clinch Valley extensions gave a number of desirable connections; the gradual perfection of roadbed and rolling stock, carried out with a thoroughness that rendered the Norfolk and Western a model freight road, enabled the company to secure the permanent growth of the Pocahontas and Pulaski mines; and with the support of great natural advantages the management succeeded in converting a formerly insignificant property into one of the most prominent, most prosperous, and most promising systems of the entire South. For, however fast the growth of the system was, it never equalled the expansion of its business. Between 1885 and 1891 its mileage was more than doubled, but its gross revenue rose from $2·77 to $9·19 millions, and its net receipts from traffic from $1 065 to $3·18 millions.

Norfolk & Western RR.—Traffic Statistics.

Year.	Average mileage operated.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate, — Cents.	Revenue, — $	Million tons carried one mile.	Rate, — Cents.	Revenue, — $
1881	—	13·1	3.03	—	120·6	1.44	1,570,665
1882	—	14 9	2 98	444,301	134 0	1.38	1,842,383
1883	—	16·3	2.98	485,804	155·5	1.40	2, 181,710
1884	500	19 2	2 71	521,191	171 8	1.18	2,025 086
1885	503	19 2	2.39	458,445	295 8	0.723	2,138,119
1886	525	19·6	2 48	486,231	403·0	0 643	1,590,826
1887	531	26 7	2 56	685,256	541·9	0.628	3,405,220
1888	572	35·4	2.44	861,778	669 5	0 571	3,820,166
1889	591	36·4	2 58	940,305	819 2	0.539	4,417,314
1890	826	64·1	2 57	1,621,260	1,008 9	0.562	5,636,317
1891	1,091	71·4	2.55	1,819,563	1,298·0	0.540	6,980,129

Norfolk and Western RR. Revenue and Expenditure per mile.

Year.	Average mileage operated.	Gross earnings.	Operating expenses.	Net earnings.	Gross earnings per mile.	Net earnings per mile.
		$	$	$	$	$
1885	503	2,771,120	1,649 291	1,121,829	5.509	2.230
1886	507	3,252 056	1,960,909	1,291,147	6.414	2.546
1887	527	4,254,794	2,483,780	1 771,013	8.073	3,360
1888	542	4,899.598	3,001,927	1,897,671	9.039	3.501
1889	591	5,597.124	3 483.352	2,113.772	9.470	3.576
1890	826	7,561.915	4,838,610	2,723.305	9.154	3.298
1891	1,091	9,186,042	6,009,767	3.178,274	8,421	2,913

This constant extension and the carrying out of betterments on an elaborate scale necessitated frequent and considerable additions to capital. Between 1885 and 1891 the preferred stock was increased from $18,000,000 to $40,000,000, the common from $7,000,000 to $9,500,000, the bonded debt from $17,309,600 to $50,943,200, and the total capital and debt — if we disregard a diminution of $1,000,000 in car trusts — therefore grew from $42,309,600 to $100,443,200, an increase which is a trifle greater than the expansion of the system during the same period, but considerably below the proportionate growth in earning power; for whereas the capital employed rose from $84,114 in 1885 to $92,065 per mile of road in 1891, net earnings increased from $2,230 per mile to $2,913, the last figure relating, moreover, to a very bad year; in the company's best year—1889 — it was as high as $3,576. The issue of new capital, therefore, offers no scope for adverse criticism, the more because the rise of $8,000 per mile is abundantly offset by the superior condition of the road, the almost absolute perfection of its rolling stock, and the remarkable increase of its business. In addition it should be remembered that we do not take a favourable year for our comparison, for both 1891 and 1892 were characterised by business depression in the South; and being in a transitory state the company had expenses inseparable from active construction, such as those caused by delay, increase of 'company's freight,' etc., matters which tend to enhance operating expenditure to a considerable extent. Yet in 1891 the property had an available revenue of $3,469,920; out of this sum $2,266,130 were paid for interest on bonds, leaving $1,203,789 available for dividends; and the usual distribution of 3 p.c. upon the preferred stock being made while in addition $129,575 were disbursed to meet extraordinary charges there remained a clear surplus for the year of $1,714, so that it was not necessary to touch the surpluses from previous years, which aggregated $1,455,262.

Since the last report was issued some more changes have taken place. A further issue of $10,000,000 preferred stock, to be offered in two annual blocks of $5,000,000 each, was authorised, and postponement of the issue of the first block being advisable, a syndicate advanced $2,000,000, (to be repaid when the stock is issued) upon collateral and bearing interest at 6 p.c. Further, $1,660,000 of 5 p.c. 100 yr. gold bonds were issued; the Lynchburg and Durham RR. was leased at a rental of 35 p.c. of gross earnings; the Roanoke and Southern was also leased against net earnings, the N. and W., moreover guaranteeing the interest on its bonds. In addition to these changes there is the opening of the Ohio extension and the prospective completion of the Washington branch, and as a result the finances of the company are in a condition which renders a clear survey of its immediate prospects extremely difficult. There are higher charges and higher earnings; in how far the latter will offset the former it is impossible to predict. Some people anticipate a serious diminution of the surplus available for dividends in 1892; but even if this forecast proves correct there will be no cause for apprehension. There can be no doubt whatever that the system possesses such inherent strength and such brilliant prospects that it will resume its prosperous career as soon as it emerges from the state of suspense its affairs have been in since the commencement of work on the Ohio extension.

Subjoined are additional tables:—

Comparative Statement of Account, 1885-1891.

	1891.	1890.	1889.	1888.	1887.	1886.	1885.
Average mileage operated	1,091	826	591	542	527	507	503
	$	$	$	$	$	$	$
Earnings from passengers	1,819,585	1,612,260	940,304	861,778	685,256	486,281	458,445
" " freight	6,980,129	5,637,217	4,417,314	3,820,166	3,405,270	2,560,828	2,138,119
" " express	121,398	96,618	68,191	62,111	50,000	50,000	50,000
" " U. S. mail	141,308	113,807	81,633	70,188	69,100	69,082	66,845
" " car service	990	21,253	38,204	29,771	—	19,382	39,694
" " miscellaneous sources	124,632	84,687	55,476	55,582	45,217	36,533	18,015
Total gross earnings	9,188,042	7,561,915	5,597,124	4,899,596	4,254,794	3,252,056	2,771,120
Expenses for general items	277,106	211,415	173,051	168,187	142,283	141,058	136,345
" " commercial department	252,746	212,182	150,500	125,468	112,968	—	—
" " maintenance of way	1,001,501	930,936	624,247	581,087	466,188	387,264	326,454
" " maintenance of engines	1,320,584	1,000,926	722,042	548,464	459,401	560,514	402,454
" " maintenance of cars	472,141	421,902	313,557	297,196	255,834	183,716	146,673
" " conducting transportat.	2,685,684	2,061,288	1,499,943	1,280,970	1,027,013	688,360	577,166
Total oper. expenses (including taxes)	6,009,767	4,838,610	3,483,352	3,001,927	2,483,780	1,960,909	1,649,291
Net earnings	3,178,274	2,723,305	2,113,772	1,897,671	1,171,013	1,291,147	1,121,829
Other income . . . Add	§291,645	233,219	144,147	147,437	101,647	25,064	—
Total income	3,469,920	2,957,224	2,257,919	2,045,109	1,872,661	1,316,111	1,121,829
Interest . . . Deduct	2,266,130	1,814,007	1,451,265	1,296,550	1,237,134	1,184,546	1,139,991
Available for dividends	1,203,789	1,143,217	806,654	748,558	635,527	131,665	*18,161
Surplus from previous year . . Add	1,455,262	1,215,122	1,110,075	691,516	55,989	73,006	513,390
Total	2,659,051	2,358,339	1,916,730	1,440,075	691,516	204,671	495,228
Extraord. charges to income . Deduct	129,575	168,007	41,607	—	—	148,682	†422,221
Dividends . . . Deduct	1,072,500	735,000	660,000	330,000	—	—	—
Total deductions	1,202,075	903,077	107,607	330,000	—	148,682	422,221
Net surplus at end of each year	1,456,976	1,455,262	1,215,122	1,110,075	691,516	55,989	73,006

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* Deficit. † Including amounts charged off for depreciation of interest in other companies. § Includes $135,000 from the special dividend fund of $270,000 provided at the time of the acquisition of the Shenandoah Valley railroad by the bondholders of that company, being two year's dividend on the 45,000 preferred shares issued in payment for that property.

Comparative Balance Sheets, 1885-1891.

	1891.	1890.	1889.	1888.	1887.	1886.	1885.
Average mileage operated	1091	826	591	542	527	507	506
Assets—	$	$	$	$	$	$	$
Railroad premises, property, and fran.	87,082,480	77,509,473	48,798,508	45,700,862	42,929,117	38,867,753	37,720,700
Rolling stock	9,071,018	8,092,835	5,544,210	4,565,823	2,531,557	1,946 324	2,399,291
Car trusts	533,314	722,723	969,788	1,188,350	1,464,171	1,743,685	1,506,523
Materials and supplies	710,324	692,718	340,167	287,363	177,541	293,332	124,424
Stocks and bonds owned	5,983,800	7,523,600	4,358,481	2,584,591	3,740,635	1,877,321	1,758,921
Bills receivable	—	—	—	—	—	—	159,140
Accounts receivable (current balances)	1,058,887	1,270,902	913,116	721,419	774,075	470,921	570,892
Suspense account	—	— —	168,563	169,127	169,250	170,391	173,028
Cash	2,014,712	†2,746,505	732,564	694,257	*2,002,964	260,356	267,228
	106,424,307	98,558,754	61,785,399	55,911,804	53,689,323	45,630,087	44,680,250
Liabilities—							
Capital stock { **Preferred**	40,000,000	34,500,000	25,000,000	22,000,000	22,000,000	18,000,000	18,000,000
Capital stock { **Common**	9,500,000	9,500,000	7,000,000	7,000,000	7,000,000	7,000,000	7,000,000
Funded debt	50,943,200	48,292,200	26,668,500	23,551,700	21,778,200	18,196,600	17,309,000
Lease warrants on rolling stock (car trusts)	533,214	722,723	969,788	1,188,350	1,464,171	1,743,685	1,506,523
Accrued interest on funded debt	820,094	666,170	444,54	409,975	380,065	338,915	306,365
Bills payable and loans on collateral	2,149,428	2,446,864	—	—	—	—	227,620
Accounts payable (current balances)	1,021,295	1,065 533	521,033	651,694	375,340	306,896	257,134
Surplus of income	1,456,976	1,455,262	1,215,122	1,110,075	691,516	55,989	73,006
	106,424,307	98,558,754	61,785,399	55,911,804	53,689,323	45,630,087	44,680,250

* Of this amount $1,454,755 57 were deposited in trust for purposes specified in Clinch Valley mortgage.
† Of this amount $1,989,985.27 were deposited in trust for purposes specified in 100-year mortgage.

Capital stock: Common. $9,500,000
5 p.c. non-cumulative preferred 40,000,000
Preferred authorised 10,000,000

Funded Debt, January 1st, 1892.

Lien created by.	*Character of lien.*	*Date of maturity.*	*Interest on Bonds.*		*Bonds sold and outstanding.*	*Annual interest charges.*
			Rate per ann.	*Date payable.*	*Amount.*	
			p. c.			
Norf. & Petersb. RR. Co..	Second mortgage coupon bonds.	July 1, 1893	8	Jan. 1st, July 1st.	. . . . . $496,000	$39,610
Southside RR. Co..........	Consol. mort. 1st pref. coupon bonds....................	July 1, 1900	6	„ „	$98,000 Extended	
		„ 1900	5	„ „	97,000 „	
		„ 1900	5	„ „	95,000 „	
					Total... $290,000	15,480
„ „	Consol. mort. 2nd pref. coupon bonds..........................	July 1, 1900	6	Jan. 1st, July 1st.	$98,000 Extended	
		„ 1900	5	„ „	93,000 „	
		„ 1900	5	„ „	94,500 „	
					Total... $270,500	14,455
„ „	Consol. mort 3rd pref. coupon bonds........................	Jan. 1, 1896	6	Jan. 1st, July 1st	$100,000.	
		„ 1896	6	„ „	100,000	
		„ 1897	6	„ „	100,000	
		„ 1898	6	„ „	100,000	
		„ 1900	6	„ „	52,000	
					Total... $452,000	27,188
Virgin. & Tenn. RR. Co..	Enlarged mortg. coup. bonds...	June30,1900	5	Jan. 1st, July 1st	Extended 960,000	49,000
„ „ „	Preferred stock...........................	. . . . .	6	„ „	 10,900	654
„ „ „	Fourth mortg. coup. bonds	Mch. 1, 1900	8	„ „	 1,000,000	80,000
Norf. & Western RR. Co.	General mortg. coup. bonds...	May 1, 1931	6	May 1st, Nov. 1st.	 7,233,000	4 6,980
„ „ „	New Riv. div. 1st mort. coup. bnds	Apr. 1, 1932	6	Apr. 1st, Oct. 1st	 2,000,000	120,000
„ „ „	Improvement and extens. bonds	Feb. 1, 1934	6	Feb. 1st, Aug. 1st.	 5,000,000	300,000
„ „ „	Adjustment mortgage bonds...	Dec 1, 1924	7	Mch. 1st, quarterly	 1,500,000	105,000
„ „ „	5 p.c. 1st mortg. Clinch Valley div.	June 1, 1957	5	Mch. 1st, Sept. 1st.	 2,500,000	125,000
„ „ „	„ equipm. mortg..............	„ 1906	5	June 1st, Dec. 1st.	 4,376,000	218,050
„ „ „	„ „ of 1892....	Jan 1, 1912	5	Jan. 1st, July 1st	 27,000	1,350
„ „ „	Convertible debenture bonds...	Jan 15, 1894	6	Jan. 15th, Jul. 15th.	 525,000	31,500
„ „ „	100-year mortgage	„ 1, 1990	5	Jan 1st, July 1st.	 7,605,000	*380,350
Scioto Vall. & N. E. RR. Co..	First mortgage loan	Nov. 1, 1989	4	May 1st, Nov. 1st.	 5,000,000	200,000
Norfolk & Western RR. Co	Maryland and Washt. division mortg. bonds................	Jan. 1, 1941	5	Jan. 1st, July 1st	 6,900,000	345,000
Grand Total..					. . . . $46,216,200	$2,480,317

* Currently divisable between and operating accounts according to proportion of work completed and in operation.

CHAPTER LIV.

THE CHESAPEAKE AND OHIO.

The Chesapeake and Ohio Railway Company came into existence in 1868, when the Virginia Central amalgamated with the Richmond and Covington RR. The Virginia Central was one of the first railways in the United States, having been chartered as early as 1836; but its completion was delayed until 1867, financial embarrassments and the war having materially interfered with the progress of construction. The Blue Ridge RR., which was part of this line, was a State work, only 17 miles long, but including a very expensive tunnel through one of the most noted ridges of the Alleghany Mountains.

Soon after the consolidation the Chesapeake and Ohio Railway Company defaulted on its interest, an event which had some connection with the unsatisfactory condition of business, but was precipitated by the failure of the company's financial agents in New York, Messrs. Fisk and Hatch. Efforts to bring about a readjustment proved futile, and a receiver was therefore appointed in October, 1875. Plans for reorganisation were mooted in 1876, but failed to lead to any result; consequently the road was sold in 1876, when the bondholders and other creditors bought the property and reorganised the company.

After its finances had been placed on a sounder basis, the C. & O. rapidly gained in influence. It was then controlled by Mr. C. P. Huntingdon, who still owns large railroad properties in the Southern States, and that gentleman being prominently connected with the Chesapeake and Ohio Southwestern, now part of the Newport News and Mississippi Railway; with the Louisville, New Orleans and Texas, which a few months ago was added to the Illinois Central system; and finally with the Kentucky Central, at present a part of the Louisville and Nashville, these three railroads became tributary to the Chesapeake and Ohio; and the latter obtained such a commanding position that its earnings rose from $1,936,000 in 1878 to $3,375,000 in 1881. For various reasons, however, the company again defaulted on its interest in 1867; the road had been allowed to deteriorate, rates had fallen, and, moreover, Mr. Huntingdon's *régime* had had an anything but salutary effect upon its affairs. This default led to a reorganisation without foreclosure in 1888 under the auspices of Messrs. Drexel Morgan & Co.—well known to be closely connected with the Vanderbilt interest—representatives of whom act as voting trustees until 1897. Since that event conditions have undergone a considerable change for the better. What the company wanted was an adjustment of its finances, a reform of its scope and its connections, and above all improvement of its permanent way and rolling stock, and the reorganisation provided for all these needs. It supplied new capital with which to place the property in prime condition, weaned the road from the evil influence of Mr. Huntingdon, brought it into close contact with the Vanderbilt system, and strengthened its position both at its Western terminus in Cincinnati and at its Eastern station at Newport News. Such far reaching reforms, carried out, moreover, under the supervision of capitalists of high repute, could not fail to bring about those changes in the company's finances which during the last few years have attracted such general attention.

The following is a summary of the lines composing the system on June 30th, 1892.

		Miles.
Owned:	Main Line, Old Point Comfort—Cincinnati . . .	665·1
	James River division, Richmond to Clifton Forge	232·5
	Branches.	95·7
	Total owned.	993·3
Leased:	Part of Virginia Midland	9·0
Operated:	" " "	84·5
	Total operated.	1,086·8

Since June 30th, 1892, the following lines have been added to the system:—

Leased:	Elisabethtown, Lexington & Big Sandy RR. . . .	203·0
	Ohio and Big Sandy River RR.	
	Kentucky and South Atlantic RR.	
	Present length of system	1,289·8

The C. & O. joins Chesapeake Bay, one of the most beautiful points on the Atlantic seaboard, with the yellow waters of the Ohio, in former times the Northern boundary of the Slave States. The system consists of a single-track road with a number of short branches, and runs from Old Point Comfort, the famous watering place of Virginia, to Cincinnati. The former is a fashionable seaside resort which counts among its *habitués* numerous members of that exclusive and aristocratic set known as the 'F. F. V.' (First Families of Virginia) and the Kentucky aristocrats closely allied thereto. Passenger traffic to the seaside is no mean source of revenue to the company, but although Old Point Comfort contains the end-buffers of the system the business terminus lies one station further West, in Newport News, situated opposite Norfolk. Newport News is only a small town with a population of 3,000; nevertheless there are extensive sidings, spacious wharves, several elevators, a few hotels, and a goodly number of railroad employees, the greater part of the inhabitants being connected with the Chesapeake and Ohio, its terminals, and the steamers that run in conjunction with it. The town is also an important coal port, 750,000 tons of bituminous fuel being annually carried thither by railway, to be transported to Northern ports by steamer; in recent years, however, Norfolk, situated across the river, has by far surpassed it in its capacity as a centre for the distribution of fuel (see p. 751) and shipments were a little smaller last year than in the preceding twelvemonth. Formidable quantities of the cereals which the road receives from its Louisville and Nashville and Vanderbilt connections find their way to Newport News, and tobacco, fruit and vegetables also leave via this port, which under the new *régime* of the C. and O. has seen a considerable growth of its transit business; this increase, indeed, calls for enlargement of the terminal facilities. The wharves, though commodious, require additions, and the elevators just referred to need enlargement; they belong, by the way, to the Chesapeake and Ohio Elevator Company, an auxiliary concern of the railway. Yet many improvements have been effected quite recently. A few years ago the town was anything but an ideal terminus, for Newport was of such little significance that freight destined for Europe had to be sent first to New York, which, of course, obliterated the advantages arising from Newport's closer proximity to Cincinnati. There were not even regular daily steamers to New York, and along the line and in Cincinnati conditions were as unsatisfactory as in Newport. The road was bad, and having no influential connections anywhere it could neither secure freight nor carry it cheaply. All this, however, has been changed since the Vanderbilts obtained control. The extensive 'Big Four' connections in Cincinnati practically give the C. & O. direct access to leading Central and Western points, and the road is now in such perfect condition that it can carry freight at a profit with the low average rate of 0.518 cent per ton-mile; and thanks to the exertions of the Vanderbilt interest Newport News now has not only quick daily steamship communication with Northern ports, but a regular line of freight steamers to Europe was inaugurated in 1891.

Messrs. Furness, of Liverpool, have entered into a contract with the railway to run eight or ten vessels a month from Newport News to various European ports, and although the experiment is quite of recent date its success is assured. It is to these great changes that the remarkable improvement of the road's finances must be attributed.

Richmond, some 50 miles West of Newport News, is, next to Cincinnati, the most important point touched by the C. & O. Virginia's charming capital is the world's greatest tobacco market and the centre of distribution of the major portion of the 510,000,000lbs. of fragrant weed annually raised in the United States. The city is surrounded by a lovely garden region, and its situation on the James River, closely resembling that of Richmond in Surrey, renders it accessible to ocean-going vessels. Its population numbers 50,000, and subsists to the extent of almost 50 per cent. on the tobacco trade and allied manufactures. The world-famed cigarette and tobacco firms now combined into the trust known as the American Tobacco Company have their headquarters here.

In Gordonsville, a little above Richmond, the road connects with the Virginia Midland, over which it obtained running powers which gave it a direct entrance into Washington. Above Richmond the James River abounds with rapids and cataracts, and these render an extended navigation impossible. The river flows down from the Alleghanies, breaking through numerous gaps, and is followed by the C. and O., which sends branches to adjacent mines. The railway crosses the summit of the mountains, and piercing several tunnels seeks the valley of the great Kanahwa River, which descends towards the Ohio. In consequence the route is characterised by the same picturesque surroundings and has to surmount the same natural obstacles as other roads crossing this long range of mountains, which stretches from New York into Alabama. The Ohio River is reached near Ashland, and from there the road runs for about a hundred miles through the Ohio valley. In Ashland there is a bifurcation, the Elizabethtown, Lexington and Big Sandy RR., which was added to the system in July, 1892, leaving the main line at this point. In Covington the road crosses the Ohio by a bridge connecting with Cincinnati, where it meets its ally, the 'Big Four.'

The numerous changes for the better which this road has undergone since its reorganisation afford one more example of the power of a strong group of capitalists. A few years ago the C. and O. could not earn its interest charges, was isolated and in bad condition; to-day it is a good property with efficient terminals, excellent connections, a growing business and earnings almost sufficient to render the distribution of a dividend a debateable question; indeed, the conversion of preferred stock into bonds, to which we refer below, is tantamount to a resumption of dividends on this stock. Under the influence of two good years, gross earnings rose $1,840,000 and net revenue $700,000, although the extensive betterments were included in operating expenses; and there being no considerable rise in charges it follows that the deficit of 1889-90 was converted into a surplus of $220,000 in 1890-91, and $391,000 in 1891-92. The subjoined tables give details of traffic, earnings, revenue, etc., for the last three years.

Chesapeake & Ohio RR.—Traffic Statistics.

Year ending June 30.	*Average mileage operated.*	*Passenger Traffic.*			*Freight Traffic.*		
		Million passengers carried one mile.	*Rate, — Cents.*	*Revenue, — $*	*Million tons carried one mile.*	*Rate, — Cents.*	*Revenue, — $*
1890	923	1·47	2.06	1,471,498	1,008·3	0.535	5,394,255
1891	1,027	1·69	2.16	1,785,299	1,135·9	0.525	5,963,516
1892	1,078	1·94	2.18	1,913,187	1,292·2	0.518	6,694,953

EARNINGS AND EXPENSES.

	1891–92.	1890–91.	1889–90.
Mileage operated, June 30	1,078	1,027	923
Earnings—	$	$	$
Passengers	1,913,187	1,765,299	1,471,438
Freight	6,694,953	5,963,516	5,384,255
Miscellaneous	169,687	187,241	99,024
Express	97,419	90,488	89,196
Mail	129,354	120,567	108,972
Newport News & Norfolk Ferry	——	——	9,064
Total	9,004,600	8,127,111	7,161,949
Expenses—			
Maintenance of way and structures	1,495,824	1,429,889	1,574,687
Maintenance of equipment	1,404,265	1,212,251	1,053,827
Conducting transportation	2,726,250	2,436,243	2,386,031
General expenses and taxes	346,971	333,051	321,200
Traffic expenses	203,046	191,428	188,288
Newport News & Norfolk Ferry	357,706	342,087	76,048
Covington and Cincinnati Bridge	197,670	138,569	11,887
Total expenses	6,731,732	6,083,518	5,611,968
Net earnings	2,272,868	2,043,593	1,549,981

INCOME ACCOUNT.

	1891–92.	1890–91.	1889–90.
	$	$	$
Net earnings	2,272,868	2,043,593	1,549,981
Other income	——	18,520	19,969
Total	2,272,868	2,062,113	1,569,950
Deduct—			
Interest on bonds	1,798,095	1,745,129	*1,663,641
Rentals of tracks	10,916	11,609	44,401
Loss on grain elevator	8,165	16,419	——
Discount, exchange, etc.	64,372	69,145	1,628
Total	1,881,548	1,842,302	1,709,670
Balance	sur 391,320	sur 219,810	def. 139,720

* Interest charges for the year ending June 30, 1890, included about $200,000 bonds issued for construction which was not finished or used until 1891.

CONDENSED BALANCE SHEET, JUNE 30, 1892.

		$	$
Assets—			
Cost of road and equipment, including branches and ownership in Maysville & Big Sandy RR. Co., Covington & Cincinnati Bridge Co., Elizabethtown, Lexington & Big Sandy RR. Co., Ohio & Big Sandy RR. Co., and Kentucky & South Atlantic RR. Co.			118,920,020 51
Cost of sundry securities in treasury			405,493 56
Sundry construction accounts			48,847.70
Special cash deposit to pay construction vouchers			194,158.18
Special cash deposit to pay coupons			229,520 51
Materials and supplies on hand		838,796.56	
Cash in hands of treasurer		231,671.95	
Due from agents, construction and current accounts		848 692 50	
Due from coal agencies		429,314 06	
			1,848,475.07
Kinniconnick & Freestone RR. Co.			3,449 27
			121,639,973.80
Liabilities—			
Capital stock—			
First preferred	$13,000,000		
Less deposited in trust	11,147,900		
		1,852,100.00	
Second preferred	12,000,000		
Less deposited in trust	9,865,000		
		2,135,000.00	
Common		58,407,400.00	
			62,394,500.00
Funded debt			55,333,713.87
Bills payable (temporarily incurred for construction, equipment, real estate, etc., and provided for out of 4½ per cent. bonds sold, but not delivered)			2,014,382 85
Construction vouchers unpaid (see special cash deposit)			139,561.10
Unpaid coupons, including coupons due July 1, 1892 (see special cash deposit on other side)			216,706.75
Accrued interest on funded debt			306,375.61
Audited vouchers, pay rolls, etc.			1,041,626.09
Profit and loss			193,125.44
			121,639,973.80

At the date of issue of the last report the capital of the company consisted of $3,987,100 preferred stock, $58,407,000 common stock and $55,333,714 bonds, enumerated in the statement below. The preferred stock is now in course of conversion. Formerly there were $13,000,000 first preferred and $12,000,000 second preferred, but these shares have for the greater part been converted. The firsts receive two-thirds of their par value in new 4½ p.c. bonds created for the purpose, and one-third in common shares; the seconds are exchanged in the reverse ratio. Some four million dollars of preferred shares have not yet been converted, and in consequence the capitalisation as enumerated here will undergo some changes in the course of the next few months. Moreover, the company is still issuing bonds for improvements, as will be seen in the extract given below.

Subjoined statement relates to the funded debt:—

Bonds Outstanding, June 30th, 1892.

Description of bonds.	*Issued.*	*Due.*	*Amount out-standing.* $	*Rate of interest.*	*Coupons due.*	*Interest for 1892-93.* $
				p.c.		
Purch. money, gold..........	1878	1898	2,287,000	6	Jan. & Jul.	137,220
First mortg. gold, series A.	1878	1908	2,083,729	6	Apr. & Aug.	120,000
Penin. ext. bonds............	1881	1911	2,000,000	6	" "	120,000
Old currency bonds..........	1878	1918	2,659	6	" "	—
Extension gold bonds........	1892	1922	142,000	6	June & Dec	8 520
Equipment bonds	Var.	Var.	320,000	6	—	19,200
*First consol. gold mortg....	1889	1939	22,952,000	5	May & Nov.	1,162,600
Do. Richm. & All. div.......	1890	1989	1,000,000	3	Jan. & Jul.	40,000
Do. " " "	1890	1989	5,000,000	2(4)	" "	100,000
Second do. " " "	1890	1989	1,000,000	4	" "	40,000
First gold mortg. Craig Vall.	1890	1940	650,000	5	" "	32,500
" Warm Spring Vall...	1890	1941	400,000	5	Mar. & Sep.	20,000
New River Bridge bonds ..	—	1896	170,000	6	May & Nov.	10,200
Manchester City bonds......	—	—	60,200	8	" "	6,616
" improv. "	—	—	36,000	5	" "	
Allegh. car trust cert.......	Var.	Var.	209,000	5	" "	13,450
Equipment notes..............	Var.	Var.	863,126	6	Var.	—
El., Lex. & Big S, firsts.....	1872	1902	27,000	6	Mar & Sep.	150,300
" " "	1872	1902	2,950,000	5	" "	
C. & O. gen. mortg..........	1892	1992	13 141,000	4½	" "	854,300
Total bonds issued..........			55,333,714			
Total interest required in 1892-93						2,850,066

* = Quoted in London.

Note.— *The management states that apart from the above interest $30.000 will be required for rentals. Hence first charges for the current year aggregate $2,880,066.*

The subjoined extract from the last annual report deserves attention:—

"The actual and prospective development of business on the system is very promising. This is especially true of the coal traffic, in which the various branches under construction in the coal region should bring a very large revenue. The control of the lines into the Blue Grass country should also throw a heavy traffic upon the main line. Most satisfactory of all, however, is the increase in passenger traffic and local freight business, which is all the more remarkable in view of the entire cessation of land and industrial speculation, so prevalent two years ago. Nearly all the enterprises on your line are on a sound footing. Notwithstanding the dulness in the iron trade the company has handled a much larger tonnage in that staple than it handled last year, and all the furnaces *local* to your line are to-day in operation.

"In view of the important transactions of the past year, through the conversion of the preferred stocks into a fixed charge, and in the acquisition of the Elizabethtown, Lexington & Big Sandy and the other lines in Kentucky, your Board deem it proper to submit to you an outline of the situation as it has appeared to them in carrying out these matters.

"The Chesapeake and Ohio *proper* (Fortress Monroe and Washington to Cincinnati) earned last year a little over $9,000,000 gross and $2,275,000 net. As may be seen from the earlier pages of this report, there has been included in operating expenses a very large sum for absolutely new work, which, in view of the high standard of efficiency now reached, and the provisions now made for additions to equipment, etc., will cease to a large extent from this time forward. It is believed that after allowing liberally for maintenance of the property and such additions and improvements as are incidental to its development, and which should properly be charged to operating expenses, there has been expended in this account during the past year a sum of over $500,000, which may be added to net earnings in ascertaining the earning capacity of the Ohio and Big Sandy; and the Kentucky and South Atlantic may, it is thought, be *safely* put down as earning a *minimum* of $250,000. This would make a total of over $3,000,000 net earnings for the year just closed against an interest charge for the ensuing year estimated at $2,880,000.

"There is now being expended upon the system some four millions of new money for double track, branches, wharves, piers, yards and equipment, in the expectation that it will lead to a further development of the property, and all the interest upon the bonds sold for paying for these extensions and developments (about $200,000 per annum) has been included in the fixed charges for the ensuing year, while no allowance has been made in the statement of net earnings, although, of course, these improvements should largely increase them.

"Your Board offer these figures as a statement of the present situation as viewed by them.

FINANCIAL.

"The company is in a strong financial condition, as may be seen from reference to the balance sheet.

"To provide for outlays made and to be made for new construction and equipment, your directors, prior to the creation of the new 4½ per cent. mortgage, arranged (as already stated) to sell $4,000,000 of the bonds secured thereby; but as, up to the present time, only a portion of the proceeds has been wanted, it has obtained temporary advances of about $2,000,000 (to be finally adjusted later) instead of delivering the entire $400,000 bonds, thus effecting a considerable saving of interest, as if the bonds had been delivered their surplus proceeds would (in the present stagnant money market) have remained idle in bank or have yielded only a trifling rate of interest. It is believed that the proceeds of these bonds will *fully* provide for all work in progress (except the Buckingham and Loup Creek extensions, which will be otherwise arranged for) and all equipment yet to be delivered under contracts made."

CHAPTER LV.

THE RICHMOND TERMINAL SYSTEM.

The Richmond and West Point Terminal Railway and Warehouse Company has a more perfect control of the transportation business of the region it serves than any other railroad system in the United States; a glance at Map 5 will show that the numerous roads united by this remarkable corporation have no rival of any consequence in the Southeastern part of the Republic. Intersecting Alabama, Georgia, the two Carolinas and Tennessee, they connect these States with the Mississippi, the Ohio and the North; tapping the cotton and mineral belts they form a strong local system with a large movement of staples; and crossing and recrossing the Southern States in the principal directions they constitute some of the most important through routes of the country.

The Richmond Terminal came into being in 1880. About that time Mr. Jason Gould, who controlled the Richmond and Danville, was desirous of creating and controlling a strong system in the South, a region just then commencing to show the first signs of its economic resurrection. The charter of the R. and D., however, debarred it from leasing roads it did not directly connect with, and it was therefore necessary to devise a means of evading the law. Mr. Gould has never been known to permit any enactment to interfere with his objects, and in this case he outwitted the statute book by founding a company in the interest of the R. & D., this new corporation — the Richmond Terminal — having for its object the acquisition of Southern roads which to all intents and purposes would become auxiliaries of the Richmond and Danville system.

During the first six years of its existence the R. T. attained no great prominence, but in 1886 the purchase of a majority of stock of the Richmond and Danville elevated it to the level of one of the most important companies of the South. In 1887 it increased its significance by the purchase of $6,500,000 first preferred stock of the East Tennessee, Virginia and Georgia system, these shares having voting control over the company until 1891, and in 1888 the Terminal bought all the stock of the Georgia Company, a corporation controlling the Central RR. and Banking Company of Georgia, and expressly formed to evade a law which would have prevented the Central Georgia system from passing into the control of the R. T. Thus the latter obtained influence over three great corporations which embrace most lines in the South. The Richmond and Danville is controlled through ownership of 49,762 common shares out of 500,000; the East Tennessee, Virginia and Georgia through ownership of $6,500,000 first preferred shares out of a total of $11,000,000 in which voting control was vested until 1891; the Central RR. and Banking Company of Georgia through ownership of all the stock ($12,000,000) of the 'Georgia Company,' which again controls the Central RR. and Banking Company of Georgia. To further secure the ties between the latter and the Terminal it has been leased to the Georgia Pacific RR., which in turn is part of the R. and D. system.

The three principal companies control their respective systems in the following manner:—

The Richmond and Danville

Owns	170·0	miles
Directly leases	581·0	„
Leases against earnings and guar. of bonds	207·0	„
Leases against earnings	1,446·5	„
Controls through investments	182·0	„
„ „ „	566·5	„
Total railroads controlled	3,153·0	„

Controls Baltim., Ches. and Richmond Steamboat Co.

The East Tennessee, Virginia and Georgia

Owns and directly operates	1,265·0	„
Controls through investment	1,310·0	„
Total railroads controlled	2,575·0	„

The Central RR. of Georgia

Owns	311·25	„
Controls through investment	726·00	„
Leases	542·75	„
Auxiliary system	1,094·00	„
„ Ocean Steamship Co.	——	„
Total railroads controlled	2,674·00	„
Grand total Richmond Terminal system (*not* including steamship lines)	8,402,00	„

The foregoing summary shows that the three auxiliary companies in spite of the enormous mileage they control really own but 1,700 miles, more than two-thirds of which belong to the East Tennessee company. This circumstance enabled Mr. Gould to obtain control at comparatively small outlay, and although the R. T. owns shares and bonds with an aggregate par value of $77,636,863, the amount sufficient for control does not exceed the $22,500,000 (par value) of stock enumerated above. Although the company owns wharves in West Point and a small railroad, its earnings are exclusively derived from its investments in numerous companies, and all these earnings are available for distribution among Richmond Terminal shareholders as soon as interest upon the collateral bonds is paid. Its capital consists of $70,000,000 common shares—mostly 'water'—$5,000,000 preferred shares and $20,565,000 collateral trust bonds secured by deposit of the greater part of the securities purchased by the company. Below are statement of income account and balance sheet for 1890 and 1891.

INCOME ACCOUNT, YEAR ENDING NOV. 30.

	1890-91. $	1889-90. $
Revenue—		
Dividends Richmond & Danville	467,680	497,810
Dividends East Tennessee 1st preferred	175,604	448,320
Dividends Central Railroad of Georgia	316,964	328,800
Interest East Tennessee 1st mortgage	18,000	7,500
Interest on State of Georgia 3½ per cent bonds	31,158	——
Interest on Rich. & Danville equip. 6 p.c. bonds	21,000	——
Interest and discount	16,074	——
Interest on advances to companies controlled, not collected but charged in open account	72,453	——
Interest on bonds owned but not collected, charged in open account	141,000	141,000
Total	1,259,933	1,423,430
Expenses—		
Interest 6 per cent. collateral trust	330,000	330,000
Interest 5 per cent. collateral trust	553,250	512,650
Interest on Georgia Company bonds	27,650	28,100
Dividends on preferred stock	249,850	249,847
Interest and discount	——	118,025
General and legal expenses	47,076	74,478
Taxes	19,176	——
Total	1,227,002	1,213,100
Net	32,931	210,330

BALANCE SHEET, NOV. 30.

	1891. $	1890. $
Dr.		
Stocks, bonds and property	90,761,818	90,280,146
Bills receivable	65,228	367,325
Due by companies controlled	1,200,864	1,077,816
Unpaid subscriptions to rights of May 21	900	900
Cash	2 8,634	326,742
Total	92,376,954	92,272,949
Cr.		
Capital stock, common	70,000,000	70,000,000
Capital stock, preferred	5,000,000	5,000,000
6 per cent. collateral trusts bonds	5,500,000	5,500,000
5 per cent. collateral trust bonds	11,065,000	11,065,000
Coupons uncollected	7,380	9,465
Preferred stock dividend uncollected	9,167	5,910
Profit and loss	755,307	692,574
Total	92,376,954	92,272,949

The R. T. depends for its revenue upon its investments, *i.e.*, upon the performance of the various parts of the system. Until recently the three auxiliary companies were doing extremely well and paying good dividends, but in 1891 a change set in, chiefly in the affairs of the Richmond and Danville, and the R. T. being more deeply concerned in the welfare of this company than in that of the others it was impossible to avert a crisis in which all parts of the system became involved. The Richmond Terminal defaulted, the R. and D. and the Central Georgia became embarrassed by their floating debts which resulted from advances made to subsidiary concerns under the stipulations of various leases; the East Tennessee was not directly embarrassed, but naturally suffered in sympathy with the system of which it is such a vital part. The Richmond and Danville had run up a floating debt of $5,100,000, the Central of Georgia one of $5,400,000, and these events, it is safe to presume, cut off the supply of funds from the Terminal; no report for 1892 nor any official statement being issued yet, we have no absolute facts to go by, but this surmise seems justified; as to other matters we are entirely in the dark, and it is possible that we shall have to wait long for the light of official or other information. The greater part of the Richmond Terminal affair is enshrouded in mystery; only the effect is plainly visible. We know that three systems with a long career of uninterrupted prosperity came into the receivers' hands; of the real causes we know next to nothing. Mr. Gould is the principal 'boss' of the R. T., and that says a good deal; it explains the prevalence of a general impression that there were machinations of a most discreditable type. However that may be, in the autumn of 1891 there were rumours to the effect that the controlled roads did not earn fixed charges, and disclosures of the *New York Herald* caused much alarm; at first the rumours and the enterprising newspaper were contradicted, but they quickly proved substantially correct. As soon as this fact was recognised a shareholders' committee of investigation was appointed which submitted a report to the board; the latter, however, rejected this, and as the shareholders' committee insisted upon the accuracy of its communication the board appointed another committee which, of course, was opposed to the first. The shareholders' committee, presided over by Mr. Olcott, made a firm stand and planned a thorough reorganisation in the shape of a consolidation of all properties except the Georgia Central; the latter is endeavouring to obtain judicial nullification of its lease to the Georgia Pacific, and also to induce the Courts to pronounce the control of the R. T. illegal. The Olcott committee submitted an elaborate plan providing for the issue of some $500,000,000 of new securities, and asked for deposit of shares and bonds; but although many deposits were made the support was insufficient and the project could not be carried out. After its collapse Messrs. Drexel, Morgan & Co. were requested to effect a reorganisation, but that firm refused because they could not obtain absolute control; no doubt there was secret scheming on the part of powerful people. Soon after the refusal of Messrs. Drexel Morgan the Richmond Terminal defaulted on the interest of its collateral bonds (Aug. 1st, 1892) 'because it was not advisable to borrow funds to pay interest with,' and the matter remains in suspense, the only notable event since the default being the appointment of receivers and election of a new board by the stockholders. The receiver's report shows the existence of a floating debt of $279,200, while $797,000 notes of the R. and D. were endorsed. As the R. T. still has some $7,500,000 of stock in its treasury there was no urgent necessity for default; indeed the entire affair from beginning to end seems to be connected more with speculative designs on the part of the powers that be than with real embarrassments. The cumbersome floating debts chiefly arise from enormous expenditure upon improvements of a by no means urgent character on branch roads; but for these all obligations could have been met, for the earnings of the R. and D. and Central Georgia companies are reported to be satisfactory in spite of the depression prevailing throughout the South. Be this as it may, the existing difficulties are not of such a grave nature as to render an adjustment out of the question, and as soon as it suits Mr. Gould and his associates the R. T. will be righted again. There have been rumours to the effect that the entire combination would collapse, and perhaps this would be the most desirable solution; but in his Richmond Terminal Mr. Gould possesses such a very pliable gambling implement that he can hardly feel disposed to part with it.

Below are details of the three subsidiary systems.

THE RICHMOND AND DANVILLE.

This system embraces 3,153 miles of railroad connecting Washington, D. C., Richmond and West Point, a port on one of the inlets of Chesapeake Bay, with Savannah, Port Royal, Arkansas City on the Mississippi, (in touch with the Iron Mountain RR.) numerous points in Georgia, the cotton belt, the Alabama mining districts, and many junctions of the Central Georgia RR. The main roads communicate with the East Tennessee, Virginia and Georgia system for Mobile and New Orleans, and with the Pennsylvania system for the great cities of the East. The company originated in 1847, and the line from Richmond to Danville was opened in 1856. But 170 miles of the total system are owned, the remainder of 2,983 miles being leased. Nearly all leases are for 99 years, and all subsidiary roads receive their own net earnings as rental. In many cases, however, the company guarantees the interest on bonds; where this is not the case it makes advances in the case of insufficient earnings, these advances to be repaid, with interest at 6 p.c., before any dividend can be declared. As will be seen below this method compels the company to make large advances because of the heavy deficits of the Ga. Pac. The latter road was added to the system in 1888, and sub-leases the Georgia Central in the interest of the R. and D.

Until some years ago the company was debarred by law from leasing roads it did not directly connect with, and this caused the Richmond Terminal to be created. The latter now owns nearly every one of the 50,000 shares issued by the R. and D. and many of its bonds. Until recently the R. and D. was in a position to pay good dividends; as much as 10 p.c. could be declared in 1889, 1890 and 1891. The deficiency arising from the lease of the Georgia Pacific, however, caused a sudden demand upon the treasury which resulted in the appointment of a receiver on June 16th, 1892. This deficit resulting chiefly from improvements the necessity of which is not universally recognised, it need hardly be said that this change is commonly supposed to be connected with the speculative designs of the Richmond Terminal gang. Had the R. and D. not been burdened with ruinous obligations it would have remained in a flourishing condition; its earning capacity is still as good as ever, and as will be seen below it would not be difficult to restore the company to its former sound position—a step which will no doubt be taken as soon as Mr. Gould thinks the time has come.

Subjoined is a statement of income account taken from the company's last annual report.

	1890 91. $	*Changes for the year.*	$
Gross income	5,947,359	Inc.	346,646
Operating expenses	3,009,737	Dec.	101.741
Net earnings	2,937,622	Inc.	448 361
Fixed charges, sinking funds and taxes	1,725,219	Dec.	13,178
Surplus	1,212,403	Inc.	461,593
Auxiliary system, consisting of operating leases and companies controlled, average mileage 2,015 5:			
Gross earnings	6,376,575	Inc.	544,055
Expenses	4,310,397	"	205,648
Net	2,066,178	"	338,396
Deduct fixed charges	1,954,471	"	39,950
Surplus	111,707	"	298,447
Total surplus over operating expenses and all charges of the R. & D. system exclusive of the Georgia Pacific	1,324,110	"	759,986
Georgia Pacific, 556 miles:			
Gross earnings	1,889,315	Inc.	126,377
Expenses	1,902,132	"	354,701
Deficit	12 817	"	228,324
Fixed charged and taxes	867,580	"	136,105
Total deficit (Georgia Pacific)	880,397	"	364,429
Improvements and betterments	426,992	"	231,787
*Extraordinary expenses	202,141	"	202,141
Total deficit	1,509,531	"	798,358

* The item of extraordinary expenses is charged separately because due to repairs which should have been distributed through previous years.

The capital of the Richmond and Danville proper consists of $5,000,000 common stock and $16,136,000 bonds. The *system* issued $43,482,950 stock and $87,814,126 bonds, $10,707,354 of the former and $69,927,661 of the latter being in the hands of the public; the remainder is owned by the Richmond Terminal Co. A statement issued in March, 1892, showed the existence of a floating debt of $5,100,000; this debt is caused by advances to other roads, and therefore offset by credits, but these floating assets are not realisable. That the Richmond and Danville proper possesses a strong vitality is proven by the following statistics which relate to the main line and branches, the Mil. & Suth. RR., State University RR., Piedmont RR., Rich. York R. & Ches.

RR., No. Car. RR., and At. & Char. Ry., in all 751 miles.

OPERATIONS.			
		1890–91.	1889–90.
Mileage operated June 30		751	751
Passengers carried		1,084,477	980,568
Freight (tons) caried		2,969,820	2,777,942
Freight (tons) carried one mile		274,520,689	258,608,704
Rate per ton per mile		1 20 cts.	1.21 cts.
EARNINGS AND EXPENSES.			
	1891–92.	1890–91.	1889–90.
	$	$	$
Earnings—			
Passengers	—	1,498,815	1,423,551
Freight	—	3 290.443	3,125,251
Mail, express. etc. (including investments)	—	1,158,101	1,051,911
Total	5 944,783	5,947,359	5,600,713
Expenses—			
Transportation	—	1,084,083	973 488
Motive power	—	918,902	840,788
Maintenance of cars	—	308,141	312,131
Maintenance of way	—	499 227	774,833
General	—	199,384	210.212
Taxes	—	75,754	75,430
Total	3 037,067	3,085,491	3,186,882
Net earnings	2 907,716	2,861,868	2,413,831
Percentage of operating expenses to earnings		51·88	—
INCOME ACCOUNT.			
	1891–92.	1890–91.	1889–90.
	$	$	$
Net earnings	2,907,716	2,861,868	2,413,831
Deduct—			
Rentals	1,135,316	895,350	1,662,967
Interest	824,195	754,115	
Dividends	250,000	500,000	500,000
Sink. fund for equipmt. bonds	100,145		
Total	2,309,656	2,149,465	2,162,967
Surplus	598,060	712,403	250,864

THE EAST TENNESSEE, VIRGINIA AND GEORGIA SYSTEM.

The E. T., Va., and Ga. Rail*way* Co. succeeded the Rail*road* Co. of the same name, which was sold in foreclosure in May, 1886. The system consists of 2,576 miles of road, of which 1,265 miles are owned, the remainder, including the Alabama Great Southern and Cincinnati, New Orleans and Texas Railroads being controlled through ownership of stock. The company's lines connect Cincinnati, Bristol (on the Norfolk and Western) and the Richmond and Danville system with Brunswick, a port in Georgia, with Mobile, and with Meridian, where the system meets the Cin., N. O., and Tex. Pac. RR. for New Orleans. The system has a large mineral and cotton traffic, and occupies a commanding position. With a slight increase in mileage its freight traffic has more than doubled since 1886, and during the same period its traffic revenue rose more than 50 p.c. The total system, including the lines in which the company has an interest, has an aggregate share capital of some 77 million dollars, and a bonded debt of nearly 57 millions. The E. T., Va. & Ga. proper, however, has a capital stock of $27,500,000 common, $11,000,000 first and $18,500,000 second preferred, (both 5 p.c., non-cumulative) and a bonded debt amounting to $36,960,000, three-eighths of which has been issued since 1887, in consequence of which interest charges have grown considerably; as already stated, the Richmond Terminal exercises control through ownership of a majority of first preferred stock. The position of the company is a sound one, and as is shown by the subjoined statement it has during each of the past four years earned enough to pay 5 p.c. on its first preferred stock. Nevertheless, the embarrassments of the Richmond Terminal caused the company's affairs to be placed in the hands of a receiver; it has, however, been officially stated that no reorganisation but only a slight adjustment is needed. Below are statements relating to traffic earnings, income and expenditure.

East Tennessee, Virginia and Georgia RR.

Years ending June 30.	Average mileage operated.	Passenger Traffic.			Freight Traffic.		
		Million passengers carried one mile.	Rate. — Cents.	Revenue. — $	Million tons carried one mile.	Rate. — Cents.	Revenue. — $
1883	1,026	34·4	2.81	965,479	171·8	1.51	2,598,225
1884	1,004	39·4	2.78	1,097,287	206·8	1.37	2,844,085
1885	1,098	42·7	2.52	1,079,891	223·5	1.19	2,667,815
1886	1,032	40·6	2.52	1,034,021	245·0	1.14	2,806,892
1887	1,032	42·8	2.54	1,085,936	294·7	1.05	3,081,179
1888	1,032	48·9	2.49	1,220,743	375·9	0.97	3,630,212
1889	1,067	50·2	2.40	1,207,229	424·8	0·91	3,815,067
1890	1,100	58·7	2.46	1,444,826	535·9	0·87	4,656,340
1891	1,231	64·2	2.53	1,624,520	594·0	0·91	4,744,920

EARNINGS AND EXPENSES.

	1890–91.	1889–90.	1888–89.	1887–88.
	$	$	$	$
Earnings—				
Passenger	1,624,519	1,444,826	1,207,229	1,220,743
Freight	4,744,920	4,656,340	3,815,067	3,630,212
Mail, express, etc.	349,291	310,912	279,338	258,962
Total gross earnings	6,718,730	6,412,078	5,301,634	5,109,917
Operating expenses—				
Maintenance of way, etc.	704,259	644,444	594,951	659,282
Maintenance of cars	353,790	496,187	300,395	314,017
Transportation expenses	1,738,508	1,495,518	1,156,791	1,072,542
Motive power	1,377,938	1,263,131	1,089,704	919,282
Taxes	188,302	162,945	133,944	196,700
General	281,492	276,713	232,924	231,415
Total expenses	4,644,289	4,338,838	3,508,610	3,393,238
Net earnings	2,074,441	2,073,240	1,793,014	1,716,679

INCOME ACCOUNT.

	1890–91.	1889–90.	1888–89.	1887–88.
	$	$	$	$
Receipts—				
Net earnings	2,074,441	2,073,240	1,793,018	1,716,679
Miscellaneous receipts	126,304	32,687	16,752	7,156
Total net income	2,200,745	1,404,743	1,809,770	1,723,835
Disbursements—				
Interest on bonds	1,855,243	1,404,743	1,228,852	1,086,993
5 p.c. on first pref. stock	550,000	550,000	550,000	550,000
Miscellaneous	73,966	—	13,775	16,156
Total disbursements	2,479,209	1,954,743	1,792,627	1,653,149
Balance	def. 278,464	sur. 171,184	sur. 17,143	sur. 70,686

THE CENTRAL RR. AND BANKING CO. OF GEORGIA.

The Central Railroad which was the nucleus of this system is one of the oldest railways in the world, having been started in 1835 and completed in 1843; it amalgamated in 1872 whit the Macon and Western RR., which was begun in 1833. Since this consolidation the system has constantly expanded with the result that to-day the company owns and leases 854 miles, while it further practically owns (through possession of nearly all their stocks and bonds) roads with an aggregate length of 726 miles, so that the corporation possesses some 1,580 miles of road. In addition it has a controlling interest in various railroad companies with a total of 1,094 miles, in steamship companies and in a bank. The share capital consists of $7,500,000, of which the R. T. holds $4,220,000— $4,000,000 of this indirectly, the Georgia Company having been formed for the purpose of evading inconvenient laws. The Georgia Central system is leased to the Georgia Pacific of the Richmond and Danville, likewise to evade the enactments of the Georgia Legislature. The system connects numerous points in Georgia with Savannah and Port Royal, two ports on the Atlantic coast.

For many years this road was one of the most prosperous in the States, and paid heavy dividends. In 1888, however, the Richmond Terminal obtained control, an event which was confirmed by the lease to the Georgia Pacific; and the company has recently contracted a cumbersome floating debt in connection with construction and betterments. The Richmond and Danville claims $2,300,000 from it, but the Georgia has set up a counterclaim and litigation has ensued, the case being rendered very complicated owing to the legality of the lease being disputed while in addition some gross irregularities connected with the control through the Georgia Company have been brought before the Court.

However these disputes may be decided, it is certain that a very prosperous company came to grief owing to its connection with the R. T. In spite of a remarkable expansion of traffic the business of 1890-91 resulted in the first deficit the company had had for many years, a direct consequence of an alarming increase in fixed charges. In addition to this deplorable feature there is a floating debt, already referred to, which was adjusted in 1891 by means of a loan secured by the company's own bonds; but when default was made in July, 1892, this loan fell due at once. Meantime floating liabilities had increased further, and now the unfunded debt amounts to about $5,400,000 exclusive of $1,000,000 car trusts. What course will be taken in order to afford the requisite relief it is impossible to say at present.

Below are the latest statements of earnings, income account and balance sheet:—

OPERATIONS.		
	1890-91.	1889-90.
Passengers carried, No.	531,054	408,883
Tons carried one mile	89,915,211	66,694,414
EARNINGS AND EXPENSES.		
	$	$
Gross earnings	*1,771,160	1,546,088
Operating expenses	1,178,886	1,015,326
Net earnings	592,274	530,762
Percentage of expenses to earnings	66·50	65·60
INCOME ACCOUNT.		
Net earnings	592,274	530,762
Disbursements—		
Interest paid	434,038	173,401
Rentals	58,460	17,731
Construction and equipment	205,864	179,966
Taxes	*96,851	19,756
Miscellaneous	7,550	7,986
Total	802,768	398,842
Balance	Def. 210,494	Sur. 131,920

Balance Sheet, Central RR. & Banking Co. of Georgia, July 1st, 1891.

Dr.	$	*Cr.*	$
RR. & appurtenances	12,400,000	Capital stock	7,500,000
Railroad equipment	1,439,888	Certificates of indebtedness	4,600,000
Bank capital	500,000	Bonds of 1872	4,999,000
Real estate	217,654	Collateral trust bonds	4,980,000
Lessees	8,791	Bills payable	3,795,110
Central Trust Co.	51,608	Unclaimed dividends	105,181
Bills receivable	1,095,985	Car trust and locomotive notes	1,409,310
Bonds	4,592,554		
Stocks	6,508,512		
Profit and loss	432,065		
Cash	162,834		
	27,409,339		27,409,339

CHAPTER LVI.

MINOR MEMBERS OF THE SOUTHERN GROUP.

Although the Southern States contain some of the oldest settlements in America, their development began later and proceeded slower than that of most other parts of the Republic; in consequence the construction of railroads on a vast scale began later than elsewhere, the various periods in the process of evolution came later, and railroad conditions in general have not yet reached a stage through which lines to be found in other sections passed long ago. For example, the process of consolidation which is so marked a feature of the American railroad system began much later here than elsewhere; in fact, it dates back no further than 1880, and assumed no formidable dimensions before 1886, when the Richmond and Danville was acquired by the Richmond Terminal. After that date, however, it progressed at a very quick pace. The last six years have seen the rise of Mr. Gould's remarkable though unstable system, the Richmond Terminal, which until the beginning of its adversities grew year by year. The Chesapeake and Ohio has acquired several other roads since its reorganisation; the Norfolk and Western has absorbed the Shenandoah Valley, the Lynchburg and Durham and the Roanoke and Southern; the Louisville and Nashville has bought and leased many small roads, the Illinois Central has amalgamated with the New Orleans and Texas, and thus the five leading systems have all made considerable additions to their mileage during the last few years. Yet the process of consolidation has hardly begun, and there remain in this section a greater number of independent lines than in any other region of the United States. In all probability, however, the majority of these will either amalgamate with each other or become absorbed by the large systems, and for that reason particulars pertaining to the most notable among them are given below.

Alabama Great Southern.—This road is part of the Richmond Terminal system and is shown on Map 5; it is 295 miles long, and belongs to an English company, controlled by the E. T., Va. & Ga., and capitalised as follows: Common shares 1,566,000*l.*, 6 p. c. preferred shares 676,070*l.*, 1st mortgage 6 p.c. gold bonds 1,750,000*l.*, 5 p.c. sterl. bonds 476,000*l.*, 6 p.c. gold debentures 134,000*l.*, income certificates 53,257*l.* The company owns jointly with the E. T., Va. & Ga, $1,000,000 shares of the Cincinnati, New Orleans and Texas Pacific, with which the road connects for Cincinnati. Gross earnings for the year ending June 30th, 1892, were $1,858,039, net $444,730; total net revenue $464,730, interest on bonds $248,220. In 1891 preferred shares received 6 p.c., common shares 1½.

Alabama Midland.—The Plant Investment Co. (*q. v.*) controls this road, which is 209 miles long and connects Montgomery, on the L. and N. system, with the other Plant roads and steamers. The company issued $2,625,000 common and $1,600,000 preferred stock, almost entirely owned by the Plant Co., and $3,100,000 6 p.c. bonds; it is proposed to reduce the interest on $2,800,000 of these bonds to 5 p.c. The company earned in 1890 $589,290 gross.

Alabama, New Orleans, Texas and Pacific Junction RR. Co., Limited.—This is an English company controlling the Alabama and Vicksburg, 142 miles; Vicksburg, Shreveport and Pacific, 189 miles; New Orleans and Northeastern, 195 miles; and Spanish Fort Railways, 3 miles, a total of 529 miles. The lines, shown on Maps 4 and 5, connect the Richmond Terminal system, which they meet in Meridian, Mi., with New Orleans and Gould's Southwestern system. The company exercises control through ownership of the following securities:—Alabama and Vicksburg—$30,000 1st mortgage, $141,100 consols, $887,700 2nd mortgage incomes and $887,700 stock; Vicksburg, Shreveport and Pacific-

$3,692,000 1st mortgage, $1,364,000 3rd mortgage, $494,860 incomes and $1,504,000 stock; New Orleans and Northeastern, $4,900,000 1st mortgage and $4,820,000 stock; New Orleans, Spanish Fort and Lake RR., $300,000 1st mortgage and $200,000 common stock; of Cincinnati Southern, $532,000 stock.

The company issued the following securities: 2,500,000*l.* deferred shares, 1,500,000*l.* preferred shares, 748,850*l.* 'A' debentures, 1,048,390*l.* 'B' debentures and 810,700*l.* 'C' debentures, all entitled to 5 p.c. interest if earned. During the 15 months ending December, 1891, its revenue from investments was 76,496*l.* permitting of the payment of 5 p.c. in full on 'A' and of 2½ p.c. on 'B' debentures; after these payments there remained a balance of 1,833*l.* The company was reorganised in 1890, after being managed by a receiver since November 1887.

The following table shows the company's revenue, etc.

OPERATIONS AND FISCAL RESULTS.

	1891-92.	1890-91.	1889-90.	1888-89.
Miles of road operated	336	336	336	336
Operations—				
Million pass. car. one mile	41,6	42,3	42,6	34,2
Passenger rate	2.24 cts.	2.34 cts.	2.25 cts.	2.32 cts.
Mill. tons of freight, one mile	407,7	354,5	302,8	298,9
Freight rate	0.78 cts.	0.88 cts.	0.92 cts.	0.86 cts.
	$	$	$	$
Earnings—				
Passenger	928,144	909,975	959,119	794,[illegible]
Freight	3,177,270	3,154,067	3,112,674	2,672,151
Mail service	105,862	107,140	105,749	96,315
Express service	96,622	89,601	81,980	60,597
Miscellaneous	35,560	39,361	39,022	32,667
Total	4,337,498	4,279,143	4,300,144	3,655,839
Op. expen. and taxes	3,199,810	3,024,502	2,728,181	2,510,600
Net earnings	1,137,688	1,254,641	1,580,963	1,145,259
Percentage of op. expen. to earnings	73·78	69·07	63·31	69·67

INCOME ACCOUNT.

	1891-92.	1890-91.	1889-90.	1888-89.
Net earnings	1,137,688	1,254,641	1,580,963	1,145,257
Deduct—				
Cash rental	984,043	912,000	912,000	912,000
Betterment rental	160,974	179,828	115,906	222,879
Interest	cr. 896	174	3,447	—
Dividends	60,000	80,000	180,000	90,000
Total	1,184,121	1,132,002	1,211,358	1,224,879
Balance	def. 46,433	sur 122,639	sur. 369,610	def. 79,621

Alabama and Vicksburg.—This road forms part of the above system, and connects Vicksburg with Meridian. The company issued $700,000 common shares and has $1,000,000 6 p.c. and $216,800 5 p.c. bonds outstanding. Earnings for the year ending June 30th, 1892, were: gross $687,462, net $137,000; the company paid its first dividend (3 p.c.) in November, 1890, and another, also 3 p.c. in November, 1891.

Atlanta and Florida.—Running from Atlanta to Fort Valley on the Central Georgia RR., a distance of 105 miles, this road will eventually be extended to tidewater. At present it is in the hands of a receiver, having defaulted on its interest early in 1892.

Cape Fear and Yadkin Valley.—This road, the greater part of which is completed, will soon meet the Pulaski branch of the Norfolk and Western at Virginia State Line, and will connect that system with Wilmington, a port in South Carolina. $3,000,000 stock are authorised, of which $1,960,400 are outstanding; $3,526,000 6 p.c. bonds are issued in addition. During the twelve months ending June 30th, 1892, net earnings were $239,458; obligatory interest charges $183,240.

Carolina Central—Connecting Wilmington, S. C., with Rutherfordton. This road is 276 miles long, and is controlled by the Seaboard and Roanoke (*q. v.*) During the year ending June 30th, 1891, the company earned $25,429 over and above fixed charges.

Charleston, Cincinnati and Chicago.—When completed this road will run from Sumter, N. C., to Richardson, Ky., a distance of 509 miles; at present only 175 miles — from Camden, S. C., to Marion, N. C. — are in operation, and connect with the Southern Carolina RR. for Charleston. The company has been reorganised recently.

Charleston and Savannah.—This road is part of the Plant system (Map 5) and has a length of 125 miles. In 1891 the line earned $62,108 over fixed charges and paid 6 p.c. on its 1st preferred incomes, as in the preceding year.

Charleston, Sumter & Northern.—Like so many of the smaller Southern systems this road is in the hands of a receiver, although a reorganisation is in progress. It controls 150 miles of track from Pregnalls, S. C., to Gibson Station, S. C.

Chesapeake and Ohio Southwestern.—Before 1881 this road was known as the Memphis, Paducah and Northern RR., but when reorganised in that year it received its present name. Uniting Louisville with Memphis, it formed part of Mr. Huntingdon's three roads connecting Newport News with New Orleans (p. 765) The company is controlled by and leased to the Newport News and Mississippi Valley RR. Co., which pays as rental interest on funded debt if earned, and not more than 6 p.c. on the stock, also if earned. The capital consists of $6,030,000 common and $3,696,000 6 p.c. preferred shares and $10,526,000 6 p.c. bonds, interest on which can be paid out of earnings, which in 1891 amounted to $2,341,990 gross and $779,143 net.

Florida Central and Peninsula.—This is rather an important system, crossing Florida from East to West and connecting the Louisville and Nashville, which it meets in River Junction, with Jacksonville on the Atlantic, and Jacksonville with Tampa, a Gulf port in Florida. The system is 666 miles long, and is outlined on Map 5. The capital of the company consists of $20,000,000 common stock, $1,582,000 1st preferred 5 p.c. cumulative, and $4,500,000 second preferred non-cumulative; 5 p.c. gold mortgages to the extent of $3,428,000 are outstanding. Earnings for the year ending June 30th, 1891: gross $1,341,871, net $270,210, first charges 155,762; these figures relate to 577 miles of road. During the current year a remarkable increase in earnings seems to have taken place; at least for the nine months ending March 31st, 1892, net earnings were reported to amount to $439,669.

Georgia, Carolina and Northern.—This road connects Monroe, N. C., with Atlanta, is 268 miles long, and was completed in April, 1892. It is part of the Seaboard and Roanoke system, which guarantees its bonds by endorsement.

Georgia Southern and Florida.—Connects Macon, Ga., with Palatka, Fla., and is 285 miles long. The road was completed in 1890: its capital consists of $4,275,000 common stock and $3,420,000 6 p.c. gold bonds; the coupon due July, 1892, has not been paid yet, the January coupon being five months overdue when met. The company is in the hands of a receiver.

Jacksonville, Tampa and Key West.—This system connects Jacksonville with numerous points in the Florida Peninsula (see Map 5) and is 200 miles long. The company controls the Florida Southern and other lines with an aggregate length of 307 miles, and the accounts of these two companies are officially reported to be 'very much mixed up together.' Both have a land grant, jointly owned, embracing 1,500,000 acres, but not very valuable; and are managed by an official receiver, though they meet their charges. Earnings of the J., T. and K. W. for 1891-92 were: gross $781,824, net $341,709, first charges about $140,000.

Kansas City, Memphis and Birmingham. — As stated on p. 553 this road is controlled by the K. C., Fort Scott and Memphis; it is 277 miles long, and connects the Southwestern road with Birmingham, Ala. The bonded debt consists of $6,892,000 5 p.c. gold bonds and $3,689,000 equipment trust bonds, the share capital is $5,956.000, one-half of which is owned by the K. C., F. S. and M. Apart from this capital there are $861,500 coupon interest notes, five coupons having been funded because interest was not earned. The year 1891-92 closed with a deficit of $203,594; gross earnings amounted to $1,174,372, net to $215,291.

Mobile and Ohio. — Map 5 shows that this road connects St. Louis with Mobile, a Gulf port; the system operates 687 miles and includes the St. Louis and Cairo RR., 152 miles long, which it leases. The capital of the company consists of $5,320,000 common stock ($10,000,000 authorised) $8,000,000 6 p.c. gold bonds, $8,219,430 4 p.c. general mortgage bonds, and $657,832 6 p.c. equipment bonds. Subjoined tables show the position of the company:—

TRAFFIC STATISTICS.

	1891-92.	1890-91.	1889-90.
Mileage operated	687	687	687
Operations—			
Million passengers carried one mile	19.9	20.3	19.5
Passenger rate	2.28c.	2.36c.	2.36c.
Million tons freight carried	302.0	300.1	255.7
Freight rate	0.845c.	0.886c.	0.912c.

EARNINGS AND EXPENSES.

	1891–92.	1890-91.	1889-90.
	$	$	$
Earnings—			
Passengers	462,776	478,091	462,314
Freight	2,554,407	2,653,444	2,333,019
Mail, express, etc.	153,631	142,195	116,361
Miscellaneous	272,946	285,408	261,737
Gross earnings	3,443,760	3,559,138	3,173,431
Operating expenses and taxes	2,357,467	2,343,425	2,102,513
Net earnings	1,086,293	1,215,713	1,070,918
Disbursements—			
Interest on 1st mortgage	420,000	420,000	420,000
Interest on 1st mortgage ex.	60,000	60,000	60,000
Rental of St. L. & C.	185,789	191,914	172,128
Interest on debentures	—	12,236	19,962
Interest on general mortgage	318,520	312,850	232,985
Interest on car trust, etc.	59,821	73,500	73,522
Total disbursements	1,044,130	1,070,500	978,597
Surplus	*42,163	*145,213	*92,321

* In addition to operating expenses there were disbursed for equipment and new construction $208,481 in 1889-90, $451,080 in 1890-91 and $218,070 in 1891-92.

BALANCE SHEET, JUNE 30.

	1891-92.	1890-91.	1889-90.
	$	$	$
Assets—			
Cost of road and equipment	22,659,470	22,559,055	22,356,344
Stock and bonds	2,714 450	2,757,050	3,030,665
Lands, etc	376,179	415,305	501,500
Cash	77,863	76,817	114,622
Bonds on deposit in N. Y.	6,090	8,325	17,905
Due from agents, RRs., etc.	230,425	210,041	206,082
Materials, fuel, etc.	106,278	210,176	226,764
Total	26,230,557	26,236,569	26,453,852
Liabilities—			
Stock issued	5 320,600	5,320,600	5,320,600
Stock in treasury	2 359,400	2 359,400	2,359,400
Funded debt	16,263,580	16,251,165	16,359,290
Car trust	657,832	775 487	674,567
Bills and loans payable	424,267	307,894	475,106
Pay-rolls, accounts, etc	318,241	339,444	353,215
Interest due and unpaid	51,340	58,501	77,380
Interest accrued, not due	141,027	147,060	85 000
Income account	59,577	22,565	98,308
Profit and loss	614,943	672,652	700,967
Total	26,230,557	26,236,569	26,453,852

New Orleans and Northeastern.—This road is controlled by the Alabama, N. O. and Texas Pacific Junction Ry. Co., which see; is 196 miles long, and connects New Orleans with Meridian. The controlling company owns $4,820,000 out of $5,000,000 common stock.

EARNINGS, EXPENSES, ETC.

	1891-92. $	1890-91. $	1889-90. $
Gross earnings	1,290,626	1,135,858	1,219,731
Operating expenses and taxes	1,017,183	871,317	878,926
Net earnings	273,443	264,541	340,805
Other income	3,404	6,465	4,048
Total	276,847	271,006	344,853
Deduct interest on bonds	367,200	365,400	360,000
Deficit	90,353	94,394	15,147

Newport News and Mississippi Valley.—This company con trols the Chesapeake and Ohio Southwestern, which see.

Plant system.—This system embraces the Alabama Midland, Atlanta and Florida, Charleston and Savannah, and Savannah, Florida and Western railroads—which see under their respective headings—and a line of steamers from Tampa, Fla., to various Gulf ports. The total length of all roads is 981 miles.

Raleigh and Gaston.—Owns 100 miles of road from Raleigh to Weldon, and controls the Raleigh and Augusta (108 miles) and the Durham and Northern (42 miles); the road is controlled by the Seaboard and Roanoke (*q. v.*) in conjunction with which it controls the Carolina Central (*q. v.*) and the Georgia, Carolina and Northern (*q. v.*)

Richmond, Fredericksburg and Potomac. — This road connects Richmond with Quantico, where it meets the Pennsylvania, of which it is the Richmond connection. The company earned 7 p.c. on its common stock in 1888, 1889 and 1891, and 6½ p.c. in 1890.

Savannah, Americus and Montgomery.—Connects Savannah with Montgomery, a traffic centre in Alabama, which is entered over the Savannah and Western by a traffic agreement. The line is 300 miles long, of which 265 are owned. The capital consists of $1,614,200 stock and some $4,400,000 bonds, nearly all 6 p.c. Gross earnings 1891-92: $500,823, net 189,760, some $50,000 below first charges.

Savannah, Florida and Western.—This road, 569 miles long, is the principal part of the Plant system, and connects Savannah and Gainesville with Chattahoochee, Fla., while various branches lead to adjacent points (see Plant system on Map 5.) The capital consists of $2,444,000 bonds and $6,403,400 stock; the latter earned 5 p.c. in 1891.

Seaboard and Roanoke.—This company owns a road from Portsmouth, Va., to Weldon, N. C., and leases the Roanoke and Tar River RR., the length of the two being 110 miles. In addition the company has an interest in the Raleigh and Gaston RR., 109 miles; Raleigh and Augusta Air Line, 107 miles; Caroline Central, 269 miles; and Georgia, Carolina and Northern, 266 miles—a total of 861 miles. The Seaboard and Roanoke has a very small capital, only $1,990,000 bonds and $1,302,900 stock, $24,200 of which is 7 p.c. guaranteed preferred. The common stock formerly received 10 p.c., but since 1890 only 7 p.c. has been paid.

South Carolina.—This property is to be sold in foreclosure in November, 1892. Its main line and branches, 247 miles long, connect Charleston with Augusta, Columbia and Camden. In 1890-91 the road earned $1,771,159 gross, and $592,274 net (310 miles, including leased lines).

Vicksburg, Shreveport and Pacific.—The outline of this system will be found on Map 4. The road forms part of the Alabama Great Southern system, and is therefore controlled by the E. T., Va. and Ga. It connects Delta, opposite Vicksburg, with Shreveport La., on the Red River. The Ala., N. O., and T. P. J. Co., Ltd., owns nearly all stock and bonds. The deficit for the year 1891 amounted to $401,806.

EARNINGS, EXPENSES, ETC.

	1891-92. $	1890-91. $	1889-90. $
Gross earnings	632,870	636,681	639,753
Operating expenses and taxes	473,987	479,417	516,759
Net earnings	158,863	157,264	122,994
Other income	——	152	333
Total	158,863	157,416	123,327
Deduct—			
Interest on bonds	349,222	394,789	385,678
Miscellaneous	4,594	7,017	8,624
Total	353,816	401,806	394,302
Deficit	194,953	244,390	270,975

Wilmington & Weldon. — This company is a counterpart to the Seaboard and Roanoke, and its system is known as the Atlantic Coast Line. It owns 162 miles of road from Wilmington to Weldon and 271 miles of branches, a total of 433 miles, shown on Map 5. It leases the Wilmington, Columbia and Augusta, 189 miles; the Central South Carolina, and controls—through investment—the Norfolk and Carolina, the total length of all lines owned, leased and controlled being 868 miles. The company paid in 1890 and 1891 a 4 p.c. dividend on $3,000,000 stock, and issued $2,500,000 6 p.c. non-cumulative "certificates of indebtedness," a 5 p.c. general mortgage of $3,000,000, and $380,000 special trust certificates; in addition $936,000 7 p.c. sinking fund bonds are outstanding. Gross and net earnings (for 362 miles) for the last three years were as stated below.

	1890-91. $	1889-90. $	1888-89. $
Gross earnings	1,535,714	1,350,853	1,224,044
Expenses	855,679	681,137	691,172
Net earnings	680,035	669,716	532,872

SUPPLEMENT.

ATCHISON CONSOLIDATED SYSTEM.

The following tables arrived just in time for insertion here.

ATCHISON SYSTEM. — REVENUE STATISTICS.

Year.	*Mileage operated.*	*Gross Earnings.* $	*Net Earnings.* $	*Percent. Expen. to Earn.*	*Gross Earnings per mile.* $	*Expenses per mile.* $	*Net earnings p. mile.* $
1877...	739	2,679,106	1,211,929	54.76	3,628	1,987	1,741
1878...	808	3,950,868	1,872,173	52.62	4,896	2,574	2,315
1879...	997	6,381,443	3,414,636	46.49	6,401	2,975	3,426
1880...	1,372	8,556,976	4,213,771	50.75	6,237	3,166	3,071
1881...	1,695	12,584,508	4,546,692	63.87	7,443	4,735	2,688
1882...	1,815	14,773,405	6,136,049	58.46	8,138	4,758	3,350
1883...	1,820	14,117,348	7,369,130	47 80	7,755	3,707	4,048
1884...	2,337	16,291,883	7,315,907	55.09	6,971	3,841	3,130
1885...	2,384	15,571,395	7,256,927	53.40	6,583	3,489	3,044
1886...	2,420	15,984,307	7,370,896	53.89	6,605	3,550	3,045
1887...	2,622	18,461,300	8,0'2 911	56.38	7,040	3,969	3,071
1888...	3,020	15,612,913	4,585,751	70.63	5,170	3,651	1,518
1889...	3,028	16,001,287	4,886,082	69.47	5,283	3,673	1,589
1890...	7,110	31,004,357	10,983,071	67.48	4,336	2,863	1,473
1891...	7,111	33,663,716	9,020,546	71.42	4,734	3,350	1,352
1892...	7,130	36,438,168	11,227,255	69.19	5,111	3,536	1,575

ATCHISON SYSTEM. — TRAFFIC STATISTICS.

Years.	*Average Mileage Operated*	*Passengers.*			*Freight.*		
		Millions carried one mile.	*Rate.* — *Cents.*	*Revenue,* — $	*Million Tons carried one mile.*	*Rate.* — *Cents.*	*Revenue,* — $
1877...	739	22·0	3.35	736,950	72 7	2.54	1,853,284
1878...	808	31·9	3.09	987,497	133·2	2.12	2 826,483
1879...	907	44·9	3 25	1,358,231	212·9	2.41	4,983,435
1880...	1,372	53·4	3.35	1,786,901	287·4	2.43	6,499,981
1881...	1,695	81·3	3 66	2,970,608	398·4	2.28	9,051,625
1882...	1,815	109·0	3.40	3,062,576	460·0	2 29	10.537,301
1883...	1,820	106·1	3 92	3,097,121	520 8	1.89	10,374,0 2
1884...	2,337	135·4	2 65	3,583,018	634·7	1 88	11,946,458
1885...	2,384	150·0	2 50	3,889,411	607 7	1.79	10,873,621
1886...	2,420	176 8	2 28	4,028,005	787·4	1.615	11,100,967
1887...	2,622	217·9	2.38	5,136,652	909·2	1.347	12,948,344
1888 ..	3,020	190·9	2.37	4,335,643	810·0	1.258	10,194,048
1889...	3,028	190·3	2.42	4,358,043	755·0	1.289	9,731,075
1890...	7,110	295·2	2.25	6,610,084	1.769·8	1.228	21,723,153
1891...	7,1'1	307·6	2 38	7,268,493	0.844 7	1.205	28,329,849
1892...	7,130	—	—	7,377,995	—	—	25,108,318

BALTIMORE AND OHIO SOUTHWESTERN RR.

The subjoined table shows the result of operations for the last two years ending June 30th.

EARNINGS, EXPENSES AND CHARGES.

	1891-92. $	1890-91. $
Gross earnings	6,648,743	2 326,671
Operating expenses	1,670,126	1,516,861
Net earnings	978,617	809,810
Other income	2,988	3,682
Total	981,605	813,492
Deduct—		
Interest on bonds	503,325	503,325
Taxes and miscellaneous	61,079	58,264
Total	564,404	561,589
Surplus	417,201	251,903

BOSTON AND MAINE RR.

A rather important event in connection with this company occurred towards the end of October, 1892, when it passed into the control of Phila. and Reading 'parties' who caused Mr. A. A. McLeod, president of the Reading system, to be elected as administrative head of this company and the New York and New England RR. Map 2 shows these three roads to form a continuous route from Maine via Boston and Poughkeepsie Bridge to Philadelphia, New-York, Reading, Buffalo, etc. For further details see p. 809.

The result of operations of the Boston and Maine RR., for the year ending June 30th, 1892, is given below. For the purpose of comparison figures for 1890—91 are added. The subjoined data are derived from a report of the Massachusetts State Railroad Commissioners and copied, by permission, from the *Chronicle's Investors' Supplement.*

	1891-92.	1890-91.
Mileage operated	1 210	1,210
	$	$
Passenger earnings	7,799,702	7,514,771
Freight	7,262,675	7,011,127
Mail, express, etc.	721,417	656,764
Total gross earnings	15,783,705	15,182,662
Operating expenses and taxes	11,031,242	10,728,685
Net earnings	4,752,552	4,453,977
Total net, including other income	5,179,841	4,951,311
Rentals paid	2,013,844	2,016,080
Interest on bonds	972,955	982,224
Other interest	204,885	161,077
Sinking funds	75,947	89,881
Dividends	1,354,880	1,329,080
Rate of dividend	(8½ c.: 6 pf.)	(9 c.: 6 pf.)
Total	4,622,475	4,578,802
Balance	557,366	372,509

CHICAGO GREAT WESTERN.

This company succeeds the Chicago, St. Paul and Kansas City, the reorganisation of which was declared effective on November 16th, 1892. The conversion was not carried out as intended (see p. 533) but on the following lines. The Equipment Lease Warrants and Priority Loan remain. The first mortgage bonds are exchanged into $500 4 p.c. Debentures and $600 5 p.c. preferred stock "A"; every General Mortgage bond is converted into $1,000 4 p.c. Preferred Stock "B." Income bonds can choose between $1,000 Common stock and $200 4 p.c. Preferred stock "B" with payment of an assessment of $100 per $1,000 bonds, or $1,500 common stock without the payment of any assessment; holders of common stock are asked either to pay an assessment of 10 p.c. in cash and to accept twice the amount of their cash payment *plus* an amount of common stock equal to that which they held, or to simply exchange the old common stock for new. A Finance Committee, elected by the holders of Debentures and "A" Prefs., is to exercise control over the road and has power to sell all preferred stock retained in case holders of junior securities are not willing to pay assessments. This reorganisation, it is said with good reason, favours owners of junior securities, and is disadvantageous to the holders of old Firsts who are to suffer a loss without receiving the slightest compensation. It is not without interest to note that, according to the *Financial News* of November 20th, 1892, the prospectus in which the 5 p.c. First Mortgage bonds were offered stated that "sufficient traffics are secured to cover the interest charge two or three times over" and that this statement is placed in no favourable light by the fact that the interest has never been earned in any single year since the issue of the bonds. A minority of bondholders refuse to submit to the reorganisation.

The issue of debentures under circumstances like the present is a new departure the success of which will be watched with keen interest. Were it not that voting powers are attached to them the experiment would be a dangerous one to make with this road.

A serious mistake on p. 583 needs correction. I stated that the road has "made no returns upon its capital since 1890." This must read: "has not earned its first charges since 1887." Interest on the bonds was paid in 1888 and 1889, though not earned; in 1890, 91 and 92 the company paid no interest, but those who financed it in Europe bought the coupons as they fell due, and had them funded into Priority notes.

The capitalisation now is as follows:

Rolling Stock Lease Warrants	$1,723,430
Priority Loan	2,823,150
4 p.c. Debentures	9,477,000
5 p.c. Preferred Stock "A"	11,372,400
4 p.c. Preferred Stock "B"	8,842,920
Common stock	24,376,300
Total	$58,915,200

$2,000,000 4 p.c. Debentures are reserved to meet future needs of the company.

CLEVELAND, CINCINNATI, CHICAGO AND ST. LOUIS RR.

The annual report for 1891-92 gives the following figures, to which those for 1890-91 are added to facilitate comparison. The company paid a 3 p.c. dividend in 1891 and 1892, as in the preceding year: passengers carried one mile, 172·3 against 162·3 millions; freight carried one mile, 1286·5 against 1221·5 million tons. Freight rate, 0·710 against 0·705 c. per ton mile; passenger rate, 2·219 against 2·248 c. per mile.

EARNINGS AND EXPENSES.

	1891-92.	1890-91.
	$	$
Earnings—		
Passenger	3,824,201	3,649,505
Freight	9,129,417	8,606,218
Mail and express	631,767	632,893
Total	13,585,385	12,888,616
Expenses—		
Maintenance of way	1,821,368	1,591,198
Maintenance of equipment and engines	1,642,101	1,553,681
Transportation and general	5,888,264	5,601,975
Car and engine service	108,356	80,110
Taxes	378,450	380,338
Total	9,838,541	9,187,212
Net earnings	3,746,844	3,701,404

INCOME ACCOUNT.

	1891-92.	1890-91
	$	$
Receipts—		
Net earnings	3,746,844	3,701,404
Rentals, interest, etc.	244,072	328,761
Total net	3,990,916	4,030,165
Disbursements—		
Interest	2,293,642	2,123,303
Rentals	276,532	476,187
Dividends*	1,340,000	1,318,322
Miscellaneous	—	10,792
Total	3,910,174	3,928,604
Surplus	80,742	101,561

* 5 p.c. on preferred and 3 p.c. on common stock in both years.

CONCORD AND MONTREAL RR.

From the report of this company for 1891—92 and the one immediately preceding it the following has been compiled :—

EARNINGS AND EXPENSES.

	1891-92.	1890-91.
	$	$
Earnings—		
Passengers	924,158	937,734
Freight	1,307,887	1,420,464
Express mail, etc.	157,454	113,500
Total earnings	2,389,499	2,471,698
Operating expenses and taxes	1,763,985	1,806,646
Net earnings	625,514	665,052

INCOME ACCOUNT.

	1891-92.	1890-91.
	$	$
Net earnings	625,514	665,052
Deduct—		
Interest	308,998	240,667
Rentals	73,465	73,504
Dividends, etc.	238,808	228,000
Total	621,271	542,171
Balance, surplus	4,243	122,881

NEW YORK CENTRAL SYSTEM.

The income account for 1891-92 was published in time for insertion of its principal figures in the table on p. 204. In addition to these the following data from the latest report are of interest. *The figures in parentheses relate to 1890-91*, and are added for the sake of comparison.

TRAFFIC STATISTICS: Average miles of track operated, 4,808 (4,752); passengers carried one mile, 687 mill. (597 mill.); passenger rate per mile, 1.94c. (1.96); profit per passenger, mile, 0.41c. (0.47); tons of freight carried one mile, 3,830 mill. (2,890); Average rate per ton per mile, 0.70c. (0.74); profit per ton per mile, 0.16c. (0.17).

REVENUE, 1891-92. The considerable expansion of traffic in 1891-92 shown by the above figures is partly accounted for by the general prosperity that prevailed throughout the year, but chiefly by the fact that the R., W. and O. RR. was only operated for three months in 1890-91, the year with which the above figures compare. Below are condensed statements of earnings, expenses, income and expenditure for 1890-91 and 1891-92.

EARNINGS AND EXPENSES.

	1891-92.	1890-91.		1891-92.	1890-91.
Earnings—	$	$	*Expenses—*	$	$
Freight	26,896,944	21,456,473	Traffic	13,275,619	10,395,628
Passenger	13,315,683	11,681,109	Motive power	8,833,002	6,743,982
Rentals	1,889,837	1,660,996	Mainten. of cars	2,448,446	1,954,185
Mail and express	2,455,284	2,218,903	Mainten. of way	4,469,007	3,722,522
Telegraph	14,281	11,244	General	1,168,047	898,425
Interest	694,837	559,577	Taxes	1,424,991	1,656,102
Other	308,769	293,812	Total expenses	31,139,113	25,370,889
Total earnings	45,476,995	37,902,114	Net earnings	14,339,512	12,531,25

INCOME ACCOUNT.

	1891-92.	1890-91.
	$	$
Receipts—		
Net earnings	14,330,512	12,531,292
Rebate on taxes of prior years	77,351	88,740
Total income	14,416,863	12,620,032
Disbursements—		
Rentals paid	5,308,704	4,452,100
Interest on debt	3,987,918	3,821,968
Taxes on earnings and capital	214,369	274,896
Dividends	4,471,415	4,024,273
Reserved for debentures	300,000	300,000
Miscellaneous	6,245	72,222
Total disbursements	14,283,541	12,978,459
Balance	sur. 133,322	def. 358,457

FUNDED DEBT.—The capital stock remained unchanged. There was, however, a net increase in the funded debt of $2,700,000. A new issue of $3,000,000 4 p.c. debentures was made and $300,000 of the same class of bonds were retired (see note p. 207, *ante*). The new issue was made to pay for betterments and new equipment. A further issue for the same purpose will be made in 1892-93.

The balance sheet is as below:—

Condensed General Balance Sheet, June 30th, 1892.

	$
Assets—	
Cost of road and equipment	153,585,294.48
Special equipment	5,406,464.31
Stock and bonds of other companies	9,394,321.67
Advances for construction of other lines, real estate, etc.	4,569,929.33
New York and Harlem Railroad, construction account	1,933,541.29
West Shore Railroad, construction account	643,431.45
Equipment under lease, Rome, Watertown & Ogdensburg RR.	165,094.45
Due by agents and others	5,098,219.90
Fuel and supplies on hand	3,337,891.39
Cash on hand	1,092,394.86
Cash in transit	276,294.35
Total	184,761,787.48
Liabilities—	
Capital stock	89,428,300.00
Funded debt	66,077,333.33
Bonds and mortgages on real estate	342,000.00
Securities acquired from lessor companies	2,827,300.00
Past due bonds	4,780.00
Interest and rentals accrued	3,680,211.13
Unclaimed interest	11,089.10
Dividend payable July 15, 1892	1,117,853.75
Unclaimed dividends	30,649.51
Due for wages, supplies, etc.	3,544,993.60
Due other roads, etc.	1,546,819.23
Rome, Watertown & Ogdensburg Railroad, construction account	811,199.07
Profit and loss (excess of assets over liabilities)	13,359,348.76
Total	184,761,787.48

NEW YORK, LAKE ERIE AND WESTERN.

No figures relating to the entire year 1891-92, which ended on Sept. 30th, have yet been published. Some interest attaches, however, to the subjoined official statement of the New York State RR. commissioners:—

	Quar. end. June 30.		*9 mos. end. June 30.*	
	1892. $	1891. $	1891-92. $	1890-91. $
Gross earnings	7,855,530	7,267,962	22,992,934	21,190,721
Operating expenses	5,093,426	4,613,078	15,317,786	13,679,956
Net earnings	2,762,104	2,654,884	7,675,148	7,510,765
Proportion due leased lines*	619,682	599,832	1,925,890	1,862,987
Balance	2,142,422	2,055,052	5,749,258	5,647,778
Other income	284,021	296,074	751,042	770,904
Total	2,426,443	2,351,126	6,500,300	6,418,682
Interest, rentals and taxes	1,965,170	1,926,697	5,897,537	5,814,824
Surplus	461,273	424,429	602,763	603,858

* Leased on a percentage basis.

NEW YORK, ONTARIO AND WESTERN.

The improving condition of this property, to which attention is drawn on p. 352, *ante*, is reflected by the accounts for the year ending June 30th, 1892, given below.

During the last fiscal year a considerable increase in coal shipments took place, as was expected on account of the recent opening of the Scranton branch. The coal tonnage carried was 1,120,146 tons, an increase for the year of 308,931 tons, or 38·07 p.c. Freight carried one mile rose in volume from 194·9 to 268·8 million tons; the average rate fell from 1.033 to 0·939c. per ton-mile, but this decline is natural because of the low rates at which coal is carried.

RECEIPTS.

	1891-92. $	1890-91. $
Passengers	657,018.30	656,184.84
Freight	2,456,047.74	2,013,685.29
Mail, express, etc.	106,523.97	105,314.84
Miscellaneous	85,827.88	38,517.20
Total	3,305,417.89	2,809,702.16

OPERATING EXPENSES.

	1891-92. $	1890-91. $
Conducting transportation	762,032.91	669,875.97
Motive power	752,189.96	604,021.20
Maintenance of cars	208,140.98	170,487.32
Maintenance of way	380,231.67	395,377.30
General expenses	106,921.08	100,947.14
Miscellaneous expenses	150,329.26	114,935.11
Total	2,359,845.86	2,055,644.22
Taxes	101,290.53	99,727.94
Total operating expenses and taxes	2,461,136.39	2,155,372.16
Net earnings	844,281.50	654,330.00
Interest and charges	637,262.22	553,890.68
Surplus	207,019.28	100,439.32

For the sake of completeness we insert a copy of the balance sheet showing the company's condition on June 30th, 1892; the figures for 1890-91, already given on p. 354, are added for comparison.

GENERAL BALANCE SHEET, JUNE 30.

	1892. $	1891. $
Assets—		
Franchises and property	65,915,111	64,776,850
Investments in other companies	3,072,830	3,071,590
Cash at bankers	90,588	50,200
Stores, fuel, etc., on hand	173,951	190,245
Sundry accounts due	801,214	649,185
Traffic accounts due	206,062	109,422
Loans and bills receivable	560,539	422,044
Miscellaneous	13,750	25,740
Premium on bonds called	280,000	—
Total assets	71,114,045	69,295,225
Liabilities—		
Common stock	58,113,983	58,113,983
Preferred stock	6,000	6,000
First mortgage 6 p.c. bonds	1,184,000	3,444,000
Consol. first mort. 5 p.c. bonds	5,000,000	5,000,000
Refunding 4 p.c. bonds*	3,850,000	—
Interest due and accrued	116,986	104,071
Sundry accounts due	354,204	302,843
Traffic accounts due	240,999	131,590
Wages for month of June	124,943	111,463
Loans and bills payable	355,178	304,247
Whar Val. Ry. consol. fund	55,264	55,264
Hancock & Pa. RR. construction fund	147,657	147,657
Profit and loss	964,861	774,078
Total liabilities	71,114,045	69,295,225

NORTHERN PACIFIC.

Contrary to expectation, the annual report for 1891-92 contains not a single word in justification of the sudden discontinuation of the dividend on the preferred stock. The origin of the remarkable increase in "general interest, sinking funds, and miscellaneous," can, however, be traced to its source; it arises through a change in the method followed in keeping the accounts relating to sinking funds. The accrued aggregate of these funds, $1,188,018, was charged against revenue of the current year, and the result is that nearly $1,200,000 less than was expected are available for dividend. The alteration appears to have been announced in December, 1891, though in such manner that it easily escaped notice. The affair is a regrettable one, not only because it casts a very unfavourable light upon the integrity of the N. P. directorate, but also because it is apt to revive old prejudices against American railroads in general — prejudices for which the history of this corporation is in no slight degree responsible. Apart from being highly discreditable in itself the affair indicates that the resumption of dividends in 1891 was not warranted by the state of the company's revenue, and that both the unexpected announcement and the sudden discontinuation of distributions on the preferred stock are connected with speculative designs of the Villard group.

While the report ignores this unsavoury affair it indulges in some juggling with figures to divert attention from other matters, notably the decline in business chiefly due to the competition of the Great Northern. Some very useful tables are supplied, one of which is given on p. 668; but while their good characteristics are extolled their less favourable features are passed over in silence. To some of the latter we have called attention in Chap. XLVII; by quoting the following we also give the other side a hearing:—

EARNINGS.

“The following condensed table shows the comparative capitalisation and earnings of the Northern Pacific Railroad. not including the Wisconsin Central, for the fiscal year just closed, compared with the same items for 1884-5, the year following the completion of the through line. Attention is called to these figures and to the percentages of increase also given. While the gross earnings have increased 179 per cent., the operating expenses show an increase of 195 per cent. The greater proportional increase in expenses is accounted for by the fact that during this interval the freight rates received per ton-mile decreased 24 per cent. The total funded and floating debt, including that of subsidiary roads, increased 83 per cent., the combined stock and debt 39 per cent., and all charges, including rentals and sinking funds, 148 per cent., as compared with an increase of 160 per cent., in net earnings and a large augmentation in surplus over all charges. In view of this growth in gross and net earnings and surplus, the directors look with confidence to the future.

	1884-5. $	1891-2. $	*Inc. or Dec.*
Capital stock, pref. and com.	87,610,584 32	85,564,250.05	− 2 per cent.
Funded debt, including debt of subsidiary roads and bills payable	84,938,301.60	153,249,865 03	+ 83 per cent.
Total stock and debt	171,548,885.92	238,814,115.08	+ 39 per cent.
Gross earnings and miscellaneous income	11,427 372 40	31,869,625 91	+ 179 per cent.
Operating exp. and taxes.	6,196,300 96	18,265,551.00	+ 195 per cent.
Fixed charges	5.139,111.58	72,769,187 27	+ 148 per cent.
Net earnings	5,231,071.44	13,604,074.91	+ 160 per cent.
Surplus over operating exp. and all charges.	91,959.86	834,887.64	+ 807 per cent.

Concerning the floating debt the report also adds little. The subjoined table, however, quoted from *The Statist*, shows the changes it underwent during the past year.

Floating Debt, Northern Pacific Railway.

Current Liabilities:—	1891-92. $	18909-1. $	*Inc. or Dec.* $
Interest on funded debt not due.	2.129.235	2,103,331	+ 25,904
Rentals, taxes and interest not due	523,906	563,757	− 39,851
Guaranteed interest and sinking fund charges on branch road bonds	791,027	604,050	+ 186,977
Dividends	7,967	774,298	− 766,331
Bills payable	5,399,696	5.064.552	+ 335,144
Ditto account Chicago terminals	4,518,668	6,285,447	−1,766,779
Accounts payable	4.966,752	5,859,182	− 892,430
Total current liabilities	18,337,251	20,854,617	−2,517,366
Current Assets:—			
Accounts receivable	5,939,863	6,097,211	− 157,348
Bills receivable	126,094	126,408	− 314
Ditto account Chicago terminals	4,518,668	6,285,447	−1,766,779
General supplies on hand	1,547,670	2,149 257	− 601,587
Cash	2,176,755	2,405,811	− 229,056
Total current assets	14,309,048	17,065,134	−2,756,086

PHILADELPHIA AND READING RR.

In October, 1892, President McLeod was elected president of the Boston and Maine and New York and New England companies. The Reading thereby becomes closely allied to these two roads, with which it connects through the Phila., Reading and New England, and obtains advantageous through connections with New England, a great consumer of Pennsylvania coals. It has also been stated that the alliance will create a new trunk line to Boston but it is somewhat difficult to conceive how. A comparison of the route from Boston to Buffalo as created by the new compact (see Map 2) with the existing line along the Boston and Albany and N.Y.C. railroads (see Map 1) will show that the new line is at a great disadvantage because of the considerable *détour* it makes. It may, however, be useful to state a fact not widely known. Boston is discriminated against by the Vanderbilt lines, and provided the new combination can carry through freight cheaply along its circuitous route it may arrive at some agreement with the Vanderbilt roads resulting in its obtaining a share of low through freights. In that case, however, Boston will continue to be at a disadvantage, and its receipts of wheat will remain small. If, on the other hand, Mr. McLeod removes the prejudicial rates he may come into conflict with the Vanderbilts.

TOLEDO, ST. LOUIS AND KANSAS CITY RR.

This company, to which reference has been made on p. 437, has published its report for 1891-92, from which the following extract has been made:

EARNINGS, EXPENSES AND CHARGES.

	1891-92.
	$
Earnings—	
Passengers	282,167
Freight	1,721,629
Mail, express, etc.	74,620
Total earnings	2,078,416
Operating expenses and taxes	1,598,101
Net earnings	480,315
Paid interest on bonds	523,310
Deficit	42,995

GENERAL BALANCE SHEET, JUNE 30, 1892.

Assets—	$	*Liabilities—*	$
Cost of road	24,255,000	Capital stock	17,055,000
Cost of equipment	1,806,000	Funded debt	9,000,000
Equipment leases	784,086	Accrued interest	45,000
Betterments, etc.	67,952	Notes payable	450,297
Materials and supplies	46,216	Equipment contracts	397,865
Cash and current assets	369,248	Other liabilities	435,583
Profit and loss	51,253		
		Total	27,383,696
Total	27,383,696		

WISCONSIN CENTRAL RAILROAD.

(For the year ending June 30th 1892.)

The Northern Pacific annual report for the year ending June 30th, 1892, states that the earnings and expenses of the Wis. Cen. RR. Co. are as follows:—

EARNINGS AND EXPENSES.

	1891-92.	1890-91.	1889-90
	$	$	$
Earnings—			
Freight	4,018,823	3,743,347	3,437,305
Passenger	1,357,196	1,259,857	1,135,250
Mail, express and miscellaneous	167,945	242,510	207,889
Total	5,543,964	5,245,714	4,780,344
Operating expenses (excl. taxes)	3,496,238	3,357,269	2,970,157
Net earnings	2,047,726	1,888,445	1,810,187
Percentage of exp. to earn. (excl. taxes)	63·06	64 00	62·13

WISCONSIN CENTRAL.

Wis. Cen. Company and Wis. Cen. Railroad Company Consolidated Balance Sheet, June 30th, 1891.

		$	$
Cost of 671·78 miles of road and its equipment			36,620,505.72
Available Assets [not including the registered bonds or stocks of constituent companies (which are all included in cost of road) nor any Wisconsin Central Co. securities on hand] viz:			
Wis. Cent. RR. Co. first series mortgage bonds, 5 per cent		158,000.00	
Minnesota Trans. Co., first mortgage bonds 5 p.c.		4,092.30	
Abbotsford & North eastern RR. first mortgage bonds, 6 per cent		35,000.00	
Milwaukee & Lake W. RR. preferred stock (3,475 shares) cost		351,000.00	
Milwaukee & Lake W. RR. convertible debentures ($200,000) cost		219,500.00	
Cent. Car Co. stock (21,532 shares), cost		2,476,100.00	
Chicago, Wis. & Minn. RR. convertible debentures, 6 per cent		43,225.10	
Chicago Wis. & Minn. RR. improvement purchase money mort. notes, 8 per cent		30,000.00	
Chicago, Wis. & Minn. RR. preferred stock (2,151 shares) cost		120,000.00	
Chicago, Wis. & Minn. RR. common stock (1,019 shares), cost		33,820.00	
Minn. St. C. & W. RR. improve't purchase money mort. notes, 8 per cent		35,000.00	
Wisc. Land & Lumber Co. second series bonds, cost		19.00	
Interest accrued on above securities		33,870.08	
Northern Pac. RR. Co., rental account May and June		312,830.78	
Accounts receivable		354,908.40	
Material		17,772.72	
Cash		373,970.48	
			4,625,583.90
Wis. Cen. RR. Sinking Fund Account—			
Cash	$ 296.12		
In Land Department	103,514.17		
			103,810.29
Suspense Accounts			20,030.29
			41,360,750.20
Liabilities—Capital stock of both companies:			
Wis. Cen. Co. common	$12,000,000.00		
Less on hand	144,150.00		
		11,855,850.00	
Wis. Cen. Co. preferred	$3,000,000.00		
Less on hand	281,525.00		
		2,718,475.00	
Wis. Cen. RR. com. ($9,274,350 retired)		161,150.00	
			14,735,475.00
'Income' funded debt of both companies:			
Wis. Cen. Co., income bonds	$9,000,000.00		
Less on hand	1,472,833.33		
		7,527,166.67	
Wis. Cen. RR. second series income bonds ($5,697,000.00 retired)	122,000.00		
Less on hand	109,000.00		
		13,000.00	
			7,540,166.67

Continued next page.)

(*Continued from p. 9.*)

	$	$	$
Funded Debt—			
Wis. Cen. Co. first mort. bonds, 5 p.c.	735,000.00		
Less on hand	1,522,000.00	11,265,000.00	
Wis. Cen. Co. and Wis. Cen. RR. joint and several improv. bonds		2,687,877.55	
Wis. Cen. RR. first series bonds, 5 p.c., due 1909 ($2,278,000 retired)		1,522,000.00	
Minn., St. C. & W. RR. first mortgage bonds, 6 p.c., due 1915		180,000.00	
Chippewa F. & W. R'y first mortgage bonds, 7 p.c., due 1904		150,000.00	
Wis. & Minn. RR. first mortgage bonds, 7 p.c., due 1910		810,000.00	
Penok. RR., first mort. bonds. 5 p.c., due 1937		30,000.00	
Minn., St. C. & W. RR. terminal mort. bonds, 8 p.c., due 1895		400,000.00	
Minn., St. C. & W. RR. improvement mortgage bonds, 8 p.c., due 1906		215,000.00	17,259,877.55
Unfunded Debt—			
Unpaid coupons, accrued interest on bonds, accounts payable, etc.		377,382.00	
Bills payable		500,478.84	
Loans, book accounts		531,500.30	
Unpaid balance on sleeping cars		53,497.66	
C. W. & M. RR. rental May and June		29,822.41	
Mil. & L. W. RR. rental May and June		6,864.22	
Wheeling gravel pit		1,822.25	1,501,567.79
Wis. Cen. RR. Land Department—sinking fund account:			
Cash not yet remitted to Trustees		147.16	
Unmatured payments on land contracts		103,367.01	103,514.17
Income Account—			
Surplus over all fixed charges, June 30, 1891			229,129.02
			41,369,730.20

APPENDICES

A. RANGE OF PRICES OF LEADING STOCKS.

B. YIELD TABLE FOR INVESTORS.

A P P

Range of Prices of Leading Stocks and Incom

	1891	1890	1889	1888	1887	1886
Atch., Top. & S. Fe....	24⅜- 47⅜	23⅝- 50⅝	26⅜- 58⅜	50⅜- 99⅝	90⅜-119⅝	78⅜-[illegible]
Income 5s............	38⅝- 69⅝	45⅝- 70⅜	— - —	— - —	— - —	— - —
Baltimore & Ohio......	85 -104	92⅜-107⅜	61 -101⅜	80 -106⅜	104 -180	150 -[illegible]
Canada Southern......	47⅜- 61¼	42 - 61½	50⅛- 57⅜	45⅜- 57⅜	49 - 64⅜	34⅝- [illegible]
Central Pacific........	29 - 34⅜	29⅜- 36⅜	33 - 36⅜	26⅜- 37⅞	28⅜- 43⅜	38 - [illegible]
Chesapeake & Ohio....	14⅜- 28	‖14⅜- 27⅜	‖15⅜- 28	§1 - 22⅜	2 - 9⅜	7 - [illegible]
1st pref..............	42 - 60⅜	‖56 - 69⅝	‖56⅜- 69⅜	§13⅝- 20⅜	4 - 17	13 - [illegible]
Chic., Burl. & Quincy..	75⅜-100⅜	80 -111⅜	89⅜-111⅜	106⅜-130⅜	123⅜-156	129⅜-14[illegible]
Chic., Milw. & St. Paul	50⅜- 76	44 - 79⅝	60⅜- 75⅜	58⅜- 78	69⅝- 95	82⅜-[illegible]
Chic. & Northwestern.	102⅜-117⅜	96 -117	102⅝-1'4⅜	102⅝-116	104⅜-127⅜	104⅜-[illegible]
Chic., R. I. & Pacific..	63⅝- 87⅜	61⅜- 98⅜	89⅜-104⅜	94⅜-114⅜	109 -140⅜	120⅜-13[illegible]
Del., Lack. & Western.	130⅜-145⅜	123⅝-'49⅜	134⅜-151	123⅝-145⅜	123⅜-139⅜	115 -14[illegible]
Delaware & Hudson....	124⅜-141⅜	120 -175	130 -156	108 -134	96⅜-108⅜	87⅜-[illegible]
East. Tenn., Va. & Ga	5 - 8⅜	6⅜- 11⅜	8⅜- 11⅜	8 - 11⅜	*9⅜- 17	⅝- [illegible]
1st pref..............	48 - 66	55 - 81	63 - 76⅜	55 - 65	52 - 82⅜	67 - [illegible]
Erie..................	17⅜- 31⅜	16 - 29⅜	25⅜- 30⅜	22⅝- 30⅜	24⅜- 35⅜	21⅜- [illegible]
Great Northern pref...	72 -111	60 - 88	71 - 98	— - —	— - —	— - —
Illinois Central........	90 -104⅜	85 -120	106 -118⅝	113 -123⅜	114 -138	130 -[illegible]
Lake Shore............	105⅜-126⅜	101 -114⅜	99⅝-108⅜	85⅜-104⅜	89 - 98⅝	76⅜-[illegible]
Lehigh Valley..........	45⅜- 51⅜	x47⅜- 54⅜	52 - 55	51⅜- 57⅜	52⅜- 57⅜	55⅜- [illegible]
Louisv. & Nashv	65⅜- 82⅜	65⅜- 92⅜	56⅜- 87⅜	50⅝- 64⅜	54⅜- 70⅜	35⅜- [illegible]
Michigan Central......	87⅜-104⅜	85 -104⅝	84⅜- 99⅝	72 - 92⅜	80 - 95⅜	61⅜- [illegible]
Missouri Pacific.......	54⅜- 77⅜	53 - 79⅝	64⅜- 78	66⅜- 89⅝	84⅜-112	100⅝-1[illegible]
N. Y., Cent. & Hudson.	96⅜-115	95⅜-111	104⅜-110⅜	102⅜-111	101⅜-114⅜	98⅝-11[illegible]
New Jersey Central...	105⅜-122⅝	90 -128⅜	92⅝-131	73⅜- 95⅜	55⅜- 86⅜	42⅝- [illegible]
N. Y., Susq. & Western.	6⅝- 11⅜	5⅜- 9	7 - 9⅜	7⅜- 11⅜	7⅜- 14	6 - [illegible]
Northern Pacific.......	20⅜- 30⅜	19⅝- 36⅜	25 - 36⅝	19⅜- 29⅜	20 - 34⅜	22 - [illegible]
Preferred.............	58⅜- 78⅜	55 - 86	59⅜- 78⅜	42⅝- 64	41⅜- 63⅜	53⅜- [illegible]
Norfolk & West. pref..	46⅜- 57⅜	48 - 66⅜	47⅜- 61⅜	41⅜- 59⅝	34⅜- 55⅜	25 - [illegible]
Ohio & Mississippi.....	15⅜- 20⅜	15 - 27⅜	19⅝- 24⅝	17⅜- 26⅜	21 - 32⅜	19⅝- [illegible]
Pennsylvania..........	49⅝- 56	47⅜- 56⅜	50⅝- 56	52⅝- 56⅝	55⅜- 60	51⅜- [illegible]
Phila. & Reading......	25⅜- 43⅜	29⅝- 49⅜	36 - 50	44⅜- 69	34 - 71⅜	18⅜- [illegible]
1st pref. income 5s...	47⅜- 70	50 - 75⅜	76⅜- 94⅜	85⅜- 91⅜	— - —	— - —
2nd pref. income 5s..	32 - 51	29⅝- 59⅜	53 - 82⅜	69⅜- 78⅜	— - —	— - —
3rd pref. income 5s..	25⅜- 39⅝	23 - 49	45 - 62⅜	50⅜- 67⅜	— - —	— - —
Rich. & W. Pt. Term...	10⅜- 19⅜	13⅜- 28⅜	19⅜- 27⅜	19 - 28⅝	20⅝- 53	27⅝- 7[illegible]
Texas & Pacific........	11⅜- 16⅝	12 - 24⅜	17⅜- 23	*18⅜- 26⅜	20 - 35⅜	7⅜- [illegible]
Income 5s............	27 - 35⅜	26 - 45⅜	34 - 40	37 - 45	— - —	— - —
Union Pacific..........	32⅝- 52⅜	40 - 68⅜	56⅜- 71⅜	48 - 66⅜	44 - 63⅝	44⅜- [illegible]

DIX.

nds for Twelve Years.—New York Quotations.

1885	1884	1883	1882	1881	1880	
¼- 88¼	60¼- 80	78 - 86½	78½- 96¾	92 -154½	113⅛-155⅝	Atch., Top. & S. Fe
— - —	— - —	— - —	— - —	— - —	— - —	Income 5s.
¼-185	167 -199	192½-205	190 -202	183 -210	— - —	Baltimore & Ohio.
- 47½	24⅝- 57½	47⅞- 71½	44 - 78	50 - 90	40 - 81½	Canada Southern.
½- 49	30 - 67¾	61 - 88	82⅝- 97½	80½-102⅝	63 - 97½	Central Pacific.
5 - 13¾	5 - 15	13 - 26¾	19½- 27	20⅜- 33½	15 - 28⅝	Chesapeake & Ohio
7 - 23¾	9½- 26	25 - 35½	27¾- 41½	32⅝- 46¾	22 - 38½	1st pref.
½-136¾	107 -127⅞	115⅝-129⅝	120½-141	120¾-182½	113 -183½	Chic., Burl. & Quincy.
¾- 99	58¾- 94¾	91⅞-108¼	98½-128⅞	101¼-129½	66½-114¾	Chic., Milw. & St. Paul.
¾-115⅞	81¼-124	115⅜-140½	124 -150⅜	117 -136	87½-130	Chic. & Northwestern.
5 -132	100½-126⅝	116½-127⅞	122 -140½	129 -148⅝	†100½-204	Chic., R. I. & Pacific.
¾-129¼	86⅝-133½	111½-131½	116½-150½	107 -131	68½-110½	Del., Lack. & Western.
½-100¼	67 -114	102½-112⅝	102⅝-119⅝	89⅜-115½	60 - 92⅝	Delaware & Hudson.
⅝- 6¾	3 - 8½	4½- 11½	8 - 16	13 - 21	— - —	East Tenn., Va. & Ga.
— - —	— - —	— - —	— - —	— - —	— - —	1st pref.
⅝- 27¼	11½- 28⅜	26⅜- 40½	33⅝- 43⅜	39⅝- 52⅝	30 - 51½	Erie.
— - —	— - —	— - —	— - —	— - —	— - —	Great Northern pref.
½-140	110 -140	124 -146	127¾-150½	124-146½	99½-127¾	Illinois Central
⅞- 89¼	59½-104¾	92⅝-114½	98 -120½	112⅝-135⅝	95 -139⅝	Lake Shore.
¼- 61¼	57 - 71½	60 - 73½	58⅝- 67⅞	57½- 64½	46 - 57⅞	Lehigh Valley.
2 - 51⅝	22⅞- 51⅜	40⅜- 58⅜	46½-100⅜	79 -110½	†77 -174	Louisv. & Nashv.
½- 79⅝	51⅞- 94½	77 -100½	77 -106	84½-126⅜	75 -130½	Michigan Central
½-111⅞	63½-100	86 -108⅝	89⅜-112½	85 -114½	— - —	Missouri Pacific.
⅝-107⅞	83½-120	111½-129½	128⅝-136	130½-155	122 -155½	N. Y. Cent. & Hudson.
1 - 52	37½- 90	68⅝- 90	63½- 97½	82⅝-112	45 - 90⅝	New Jersey Central.
1⅛- 8⅜	1½- 6	4⅞- 8⅜	— - —	— - —	— - —	N. Y., Susq. & Western.
5 - 31¾	14 - 27	23⅞- 58⅜	27⅞- 54⅝	32⅞- 51	20 - 38	Northern Pacific.
½- 48⅜	37½- 57⅞	49⅞- 90⅜	76⅜-100⅜	64½- 88⅜	39⅝- 67½	Preferred.
- 34¼	17 - 42	38 - 66⅝	44⅝- 60	56 - 70	— - —	Norfolk & West. pref.
½- 28¾	14⅝- 25½	21 - 36⅝	27 - 42	35 - 50	25 - 44½	Ohio & Mississippi.
⅜- 56¾	49⅝- 61	56½- 64⅝	53½- 65½	59½- 70½	46 - 67⅞	Pennsylvania
- 26	16½- 60⅝	46⅝- 61½	46⅝- 67½	50 - 74⅝	13½- 72⅝	Phil. & Reading.
— - —	— - —	— - —	— - —	— - —	— - —	1st pref. income 5s.
— - —	— - —	— - —	— - —	— - —	— - —	2nd pref. income 5s.
— - —	— - —	— - —	— - —	— - —	— - —	3rd. pref. income 5s
½- 40⅞	12 - 36	21 - 39	23 -233	122-174½	— - —	Rich. & W. Pt. Term.
⅞- 25½	8½- 22⅞	17½- 43	34 - 5o	41½- 73⅞	30 - 47⅞	Texas & Pacific
— - —	— - —	— - —	— - —	— - —	— - —	Income 5s.
- 62⅞	28 - 84½	70½-104¾	98½-119⅝	105½-131⅞	80 -112⅞	Union Pacific.

APPENDIX B. — TABLE FOR INVESTORS.

The following table shows the rate per cent. of annual income to be realized from stocks or bonds bearing any given rate of yearly dividends or interest, from 3 to 15 per cent., when purchased at various prices from 10 to 300 per cent.

For example: To ascertain what rate of annual interest will be realized on a bond or stock which bears 7 per cent. per annum and can be purchased at 92 (*i.e.*, at 92 per cent. of its par value, whatever the par may be), find 92 in the column of "purchase price" and follow that line across to the column headed "7 per cent.," which will show the correct figure—in the present instance, 7.60 per cent.

Purchase Price.	*3 per cent.*	*4 per cent.*	*4½ per cent.*	*5 per cent.*	*6 per cent.*	*7 per cent.*	*8 per cent.*	*9 per cent.*	*10 per cent.*	*12 per cent.*	*15 per cent.*
10......	30	40	45	50	60	70	80	90	100	120	150
15......	20	26.66	30	33.33	40	46.66	53.33	60	66.66	80	100
20......	15	20	22.50	25	30	35	40	45	50	60	75
22......	13.63	18.18	20.45	22.72	27.27	31.81	36.36	40.90	45.45	54.54	68.18
24......	12.50	16.66	18.75	20.83	25	29.16	33.33	37.50	41.66	50	62.50
26......	11.53	15.38	17.30	19.23	23.07	26.92	30.76	34.61	38.46	46.15	57.69
28......	10.71	14.28	16.07	17.85	21.42	25	28.57	32.14	35.71	42.85	53.57
30......	10	13.33	15	16.66	20	23.33	26.66	30	33.33	40	50
32......	9.37	12.50	14.06	15.62	18.75	21.87	25	28.12	31.25	37.50	46.87
34......	8.82	11.76	13.23	14.70	17.64	20.58	23.52	26.47	29.41	35.29	44.11
36......	8.33	11.11	12.50	13.88	16.66	19.44	22.22	25	27.77	33.33	41.66
38......	7.89	10.52	11.84	13.15	15.78	18.42	21.05	23.68	26.31	31.57	39.47
40......	7.50	10	11.25	12.50	15	17.50	20	22.50	25	30	37.50
42......	7.14	9.52	10.71	11.90	14.28	16.66	19.04	21.42	23.80	28.57	35.71
44......	6.81	9.09	10.22	11.36	13.63	15.90	18.18	20.45	22.72	27.27	34.09
46......	6.52	8.69	9.78	10.86	13.04	15.21	17.39	19.56	21.73	26.08	32.60
48......	6.25	8.33	9.37	10.41	12.50	14.58	16.66	18.75	20.83	25	31.25
50......	6	8	9	10	12	14	16	18	20	24	30
51......	5.88	7.84	8.82	9.80	11.76	13.72	15.68	17.64	19.60	23.52	29.41
52......	5.76	7.69	8.65	9.61	11.53	13.46	15.38	17.30	19.23	23.07	28.84
53......	5.66	7.54	8.49	9.43	11.32	13.20	15.09	16.98	18.86	22.64	28.30
54......	5.55	7.40	8.33	9.25	11.11	12.96	14.81	16.66	18.51	22.22	27.77
55......	5.45	7.27	8.18	9.09	10.90	12.72	14.54	16.36	18.18	21.81	27.27
56......	5.35	7.14	8.03	8.92	10.71	12.50	14.28	16.07	17.85	21.42	26.78
57......	5.26	7.01	7.89	8.77	10.52	12.28	14.03	15.78	17.54	21.05	26.31
58......	5.17	6.89	7.75	8.62	10.34	12.06	13.79	15.51	17.24	20.68	25.86
59......	5.08	6.77	7.62	8.47	10.16	11.86	13.55	15.25	16.94	20.33	25.42
60......	5	6.66	7.50	8.33	10	11.66	13.33	15	16.66	20	25
61......	4.91	6.55	7.37	8.19	9.83	11.47	13.11	14.75	16.39	19.67	24.59
62......	4.83	6.45	7.25	8.06	9.67	11.29	12.90	14.51	16.12	19.35	24.19
63......	4.76	6.34	7.14	7.93	9.52	11.11	12.69	14.28	15.87	19.04	23.80
64......	4.68	6.25	7.03	7.81	9.37	10.93	12.50	14.06	15.62	18.75	23.43
65......	4.61	6.15	6.92	7.69	9.23	10.76	12.30	13.84	15.38	18.46	23.07
66......	4.54	6.06	6.81	7.57	9.09	10.60	12.12	13.63	15.15	18.18	22.72
67......	4.47	5.97	6.71	7.46	8.95	10.44	11.94	13.43	14.92	17.91	22.38
68......	4.41	5.88	6.61	7.35	8.82	10.29	11.76	13.23	14.70	17.64	22.05
69......	4.34	5.79	6.52	7.24	8.69	10.14	11.59	13.04	14.49	17.39	21.73
70......	4.28	5.71	6.42	7.14	8.57	10	11.42	12.85	14.28	17.14	21.42
71......	4.22	5.63	6.33	7.04	8.45	9.85	11.26	12.67	14.08	16.90	21.12
72......	4.16	5.55	6.25	6.94	8.33	9.72	11.11	12.50	13.88	16.66	20.83
73......	4.10	5.47	6.16	6.84	8.21	9.58	10.95	12.32	13.69	16.43	20.54
74......	4.05	5.40	6.08	6.75	8.10	9.45	10.81	12.16	13.51	16.21	20.27
75......	4	5.33	6	6.66	8	9.33	10.66	12	13.33	16	20
76......	3.94	5.26	5.92	6.57	7.89	9.21	10.52	11.84	13.15	15.78	19.73
77......	3.89	5.19	5.84	6.49	7.79	9.09	10.38	11.68	12.98	15.58	19.48
78......	3.84	5.12	5.76	6.41	7.69	8.97	10.25	11.53	12.82	15.38	19.23
79......	3.79	5.06	5.69	6.32	7.59	8.86	10.12	11.39	12.65	15.18	18.98
80......	3.75	5	5.62	6.25	7.50	8.75	10	11.25	12.50	15	18.75
81......	3.70	4.93	5.55	6.17	7.40	8.64	9.87	11.11	12.34	14.81	18.51
82......	3.65	4.87	5.48	6.09	7.31	8.53	9.75	10.97	12.19	14.63	18.29
83......	3.61	4.81	5.42	6.02	7.22	8.43	9.63	10.84	12.04	14.45	18.07
84......	3.57	4.76	5.35	5.95	7.14	8.33	9.52	10.71	11.90	14.28	17.85
85......	3.52	4.70	5.29	5.88	7.05	8.23	9.41	10.58	11.76	14.11	17.64

Purchase Price.	3 per cent.	4 per cent.	4½ per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.	9 per cent.	10 per cent.	12 per cent.	15 per cent.
86....	3.48	4.65	5.23	5.81	6.97	8.13	9.30	10.46	11.62	13.95	17.44
87....	3.44	4.59	5.17	5.74	6.89	8.04	9.19	10.34	11.49	13.79	17.24
88....	3.40	4.54	5.11	5.68	6.81	7.95	9.09	10.22	11.36	13.63	17.04
89....	3.37	4.49	5.05	5.61	6.74	7.86	8.98	10.11	11.23	13.48	16.85
90....	3.33	4.44	5	5.55	6.66	7.77	8.88	10	11.11	13.33	16.66
91....	3.29	4.39	4.94	5.49	6.59	7.69	8.79	9.89	10.98	1.318	16.48
92....	3.26	4.34	4.89	5.43	6.52	7.60	8.69	9.78	10.86	1.304	16.30
93....	3.22	4.30	4.83	5.37	6.45	7.52	8.60	9.67	10.75	1.290	16.12
94....	3.19	4.25	4.78	5.31	6.38	7.44	8.51	9.57	10.63	1.276	15.95
95....	3.15	4.21	4.73	5.26	6.31	7.36	8.42	9.47	10.52	1.263	15.78
96....	3.12	4.16	4.68	5.20	6.25	7.29	8.33	9.37	10.41	12.50	15.62
97....	3.09	4.12	4.63	5.15	6.18	7.21	8.24	9.27	10.30	12.37	15.46
98....	3.06	4.08	4.59	5.10	6.12	7.14	8.16	9.18	10.20	12.24	15.30
99....	3.03	4.04	4.54	5.05	6.06	7.07	8.08	9.09	10.10	12.12	15.15
100 ...	3	4	4.50	5	6	7	8	9	10	12	15
101....	2.97	3.96	4.45	4.95	5.94	6.93	7.92	8.91	9.90	11.88	14.85
102....	2.94	3.92	4.41	4.90	5.88	6.86	7.84	8.82	9.80	11.76	14.70
103....	2.91	3.88	4.36	4.85	5.82	6.79	7.76	8.73	9.70	11.65	14.56
104....	2.88	3.84	4.32	4.80	5.76	6.73	7.69	8.65	9.61	11.53	14.42
105....	2.85	3.80	4.28	4.76	5.71	6.66	7.61	8.57	9.52	11.42	14.28
106....	2.83	3.77	4.24	4.71	5.66	6.60	7.54	8.49	9.43	11.32	14.15
107....	2.80	3.73	4.20	4.67	5.60	6.54	7.47	8.41	9.34	11.21	14.01
108....	2.77	3.70	4.16	4.62	5.55	6.48	7.40	8.33	9.25	11.11	13.88
109....	2.75	3.66	4.12	4.58	5.50	6.42	7.33	8.25	9.17	11	13.76
110....	2.72	3.63	4.09	4.54	5.45	6.36	7.27	8.18	9.09	10.90	13.63
111....	2.70	3.60	4.05	4.50	5.40	6.30	7.20	8.10	9	10.81	13.51
112	2.67	3.57	4.01	4.46	5.35	6.25	7.14	8.03	8.92	10.71	13.39
113....	2.65	3.54	3.98	4.42	5.30	6.19	7.07	7.96	8.84	10.61	13.27
114....	2.63	3.50	3.94	4.38	5.26	6.14	7.01	7.89	8.77	10.52	13.15
115....	2.60	3.47	3.91	4.34	5.21	6.08	6.95	7.82	8.69	10.43	13.04
116	2.58	3.44	3.87	4.31	5.17	6.03	6.89	7.75	8.62	10.34	12.93
117....	2.56	3.41	3.84	4.27	5.12	5.98	6.83	7.69	8.54	10.25	12.82
118....	2.54	3.38	3.81	4.23	5.08	5.93	6.77	7.62	8.47	10.16	12.71
119....	2.52	3.36	3.78	4.20	5.04	5.88	6.72	7.56	8.40	10.08	12.60
120....	2.50	3.33	3.75	4.16	5	5.83	6.66	7.50	8.33	10	12.50
121...	2.47	3.30	3.71	4.13	4.95	5.78	6.61	7.43	8.26	9.91	12.39
122....	2.45	3.27	3.68	4.09	4.91	5.73	6.55	7.37	8.19	9.83	12.29
123....	2.43	3.25	3.65	4.06	4.87	5.69	6.50	7.31	8.13	9.75	12.19
124....	2.41	3.22	3.62	4.03	4.83	5.64	6.45	7.25	8.06	9.67	12.09
125....	2.40	3.20	3.60	4	4.80	5.60	6.40	7.20	8	9.60	12
130....	2.30	3.07	3.46	3.84	4.61	5.38	6.15	6.92	7.69	9.23	11.53
135....	2.22	2.96	3.33	3.70	4.44	5.18	5.92	6.66	7.40	8.88	11.11
140....	2.14	2.85	3.21	3.57	4.28	5	5.71	6.42	7.14	8.57	10.71
145....	2.06	2.75	3.10	3.44	4.13	4.82	5.51	6.20	6.89	8.27	10.34
150....	2	2.66	3	3.33	4.	4.66	5.33	6	6.66	8	10
155....	1.93	2.58	2.90	3.22	3.87	4.51	5.16	5.80	6.45	7.74	9.67
160....	1.87	2.50	2.81	3.12	3.75	4.37	5	5.62	6.25	7.50	9.37
165....	1.81	2.42	2.72	3.03	3.63	4.24	4.84	5.45	6.06	7.27	9.09
170....	1.76	2.35	2.64	2.94	3.52	4.11	4.70	5.29	5.88	7.05	8.82
175 ...	1.71	2.28	2.57	2.85	3.42	4	4.57	5.14	5.71	6.85	8.57
180....	1.66	2.22	2.50	2.77	3.33	3.88	4.44	5	5.55	6.66	8.33
185....	1.62	2.16	2.43	2.70	3.24	3.78	4.32	4.86	5.40	6.48	8.10
190....	1.57	2.10	2.36	2.63	3.15	3.68	4.21	4.73	5.26	6.31	7.89
195 ...	1.53	2.05	2.30	2.56	3.07	3.58	4.10	4.61	5.12	6.15	7.69
200....	1.50	2	2.25	2.50	3	3.50	4	4.50	5	6	7.50
210....	1.42	1.90	2.14	2.38	2.85	3.33	3.80	4.28	4.76	5.71	7.14
220....	1.36	1.81	2.04	2.27	2.72	3.18	3.63	4.09	4.54	5.45	6.81
225....	1.33	1.77	2	2.22	2.66	3.11	3.55	4	4.44	5.33	6.66
230....	1.30	1.73	1.95	2.17	2.60	3.04	3.47	3.91	4.34	5.21	6.52
240....	1.25	1.66	1.87	2.08	2.50	2.91	3.33	3.75	4.16	5	6.25
250....	1.20	1.60	1.80	2	2.40	2.80	3.20	3.60	4	4.80	6
275....	1.09	1.45	1.63	1.81	2.18	2.54	2.90	3.27	3.63	4.36	5.45
300....	1	1.33	1.50	1.66	2	2.33	2.66	3	3.33	4	5

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15	£1,000,	132	5	1	255	15	9
20	£28 6 8	185	0	10	342	8	0
25		246	2	4	434	4	0
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